

# Sequence Listing

- <110> Ashkenazi, Avi J.  
 Baker, Kevin P.  
 Botstein, David  
 Desnoyers, Luc  
 Eaton, Dan L.  
 Ferrara, Napoleone  
 Fong, Sherman  
 Gerber, Hanspeter  
 Gerritsen, Mary E.  
 Goddard, Audrey  
 Godowski, Paul J.  
 Grimaldi, J. Christopher  
 Gurney, Austin L.  
 Kljavin, Ivar J.  
 Napier, Mary A.  
 Pan, James  
 Paoni, Nicholas F.  
 Roy, Margaret Ann  
 Stewart, Timothy A.  
 Tumas, Daniel  
 Watanabe, Colin K.  
 Williams, P. Mickey  
 Wood, William I.  
 Zhang, Zemin
- <120> Secreted and Transmembrane Polypeptides and Nucleic  
 Acids Encoding the Same
- <130> P2730P1C66
- <150> 60/049787  
 <151> 1997-06-16
- <150> 60/062250  
 <151> 1997-10-17
- <150> 60/065186  
 <151> 1997-11-12
- <150> 60/065311  
 <151> 1997-11-13
- <150> 60/066770  
 <151> 1997-11-24
- <150> 60/075945  
 <151> 1998-02-25
- <150> 60/078910  
 <151> 1998-03-20
- <150> 60/083322  
 <151> 1998-04-28
- <150> 60/084600  
 <151> 1998-05-07
- <150> 60/087106  
 <151> 1998-05-28
- <150> 60/087607



09909297 4.4.2004

<151> 1998-06-10  
<150> 60/088826  
<151> 1998-06-10  
  
<150> 60/088858  
<151> 1998-06-11  
  
<150> 60/088861  
<151> 1998-06-11  
  
<150> 60/088876  
<151> 1998-06-11  
  
<150> 60/089105  
<151> 1998-06-12  
  
<150> 60/089440  
<151> 1998-06-16  
  
<150> 60/089512  
<151> 1998-06-16  
  
<150> 60/089514  
<151> 1998-06-16  
  
<150> 60/089532  
<151> 1998-06-17  
  
<150> 60/089538  
<151> 1998-06-17  
  
<150> 60/089598  
<151> 1998-06-17  
  
<150> 60/089599  
<151> 1998-06-17  
  
<150> 60/089600  
<151> 1998-06-17  
  
<150> 60/089653  
<151> 1998-06-17  
  
<150> 60/089801  
<151> 1998-06-18  
  
<150> 60/089907  
<151> 1998-06-18  
  
<150> 60/089908  
<151> 1998-06-18  
  
<150> 60/089947  
<151> 1998-06-19  
  
<150> 60/089948  
<151> 1998-06-19  
  
<150> 60/089952  
<151> 1998-06-19  
  
<150> 60/090246





0909293-1001

<151> 1998-06-26  
<150> 60/090863  
<151> 1998-06-26  
  
<150> 60/091360  
<151> 1998-07-01  
  
<150> 60/091478  
<151> 1998-07-02  
  
<150> 60/091544  
<151> 1998-07-01  
  
<150> 60/091519  
<151> 1998-07-02  
  
<150> 60/091626  
<151> 1998-07-02  
  
<150> 60/091633  
<151> 1998-07-02  
  
<150> 60/091978  
<151> 1998-07-07  
  
<150> 60/091982  
<151> 1998-07-07  
  
<150> 60/092182  
<151> 1998-07-09  
  
<150> 60/092472  
<151> 1998-07-10  
  
<150> 60/091628  
<151> 1998-07-02  
  
<150> 60/091646  
<151> 1998-07-02  
  
<150> 60/091673  
<151> 1998-07-02  
  
<150> 60/093339  
<151> 1998-07-20  
  
<150> 60/094651  
<151> 1998-07-30  
  
<150> 60/095282  
<151> 1998-08-04  
  
<150> 60/095285  
<151> 1998-08-04  
  
<150> 60/095302  
<151> 1998-08-04  
  
<150> 60/095318  
<151> 1998-08-04  
  
<150> 60/095321

090929-12001

<151> 1998-08-04  
<150> 60/095301  
<151> 1998-08-04  
  
<150> 60/095325  
<151> 1998-08-04  
  
<150> 60/095916  
<151> 1998-08-10  
  
<150> 60/095929  
<151> 1998-08-10  
  
<150> 60/096012  
<151> 1998-08-10  
  
<150> 60/096143  
<151> 1998-08-11  
  
<150> 60/096146  
<151> 1998-08-11  
  
<150> 60/096329  
<151> 1998-08-12  
  
<150> 60/096757  
<151> 1998-08-17  
  
<150> 60/096766  
<151> 1998-08-17  
  
<150> 60/096768  
<151> 1998-08-17  
  
<150> 60/096773  
<151> 1998-08-17  
  
<150> 60/096791  
<151> 1998-08-17  
  
<150> 60/096867  
<151> 1998-08-17  
  
<150> 60/096891  
<151> 1998-08-17  
  
<150> 60/096894  
<151> 1998-08-17  
  
<150> 60/096895  
<151> 1998-08-17  
  
<150> 60/096897  
<151> 1998-08-17  
  
<150> 60/096949  
<151> 1998-08-18  
  
<150> 60/096950  
<151> 1998-08-18  
  
<150> 60/096959

009999-1204

<151> 1998-08-18  
<150> 60/096960  
<151> 1998-08-18  
  
<150> 60/097022  
<151> 1998-08-18  
  
<150> 60/097141  
<151> 1998-08-19  
  
<150> 60/097218  
<151> 1998-08-20  
  
<150> 60/097661  
<151> 1998-08-24  
  
<150> 60/097952  
<151> 1998-08-26  
  
<150> 60/097954  
<151> 1998-08-26  
  
<150> 60/097955  
<151> 1998-08-26  
  
<150> 60/098014  
<151> 1998-08-26  
  
<150> 60/097971  
<151> 1998-08-26  
  
<150> 60/097974  
<151> 1998-08-26  
  
<150> 60/097978  
<151> 1998-08-26  
  
<150> 60/097986  
<151> 1998-08-26  
  
<150> 60/097979  
<151> 1998-08-26  
  
<150> 60/098525  
<151> 1998-08-31  
  
<150> 60/100634  
<151> 1998-09-16  
  
<150> 60/100858  
<151> 1998-09-17  
  
<150> 60/113296  
<151> 1998-12-22  
  
<150> 60/123957  
<151> 1999-03-12  
  
<150> 60/141037  
<151> 1999-06-23  
  
<150> 60/143048





<151> 1999-06-02  
 <150> PCT/US99/21090  
 <151> 1999-09-15  
 <150> PCT/US99/21547  
 <151> 1999-09-15  
 <150> PCT/US99/28313  
 <151> 1999-11-30  
 <150> PCT/US99/28301  
 <151> 1999-12-01  
 <150> PCT/US99/28634  
 <151> 1999-12-01  
 <150> PCT/US99/30095  
 <151> 1999-12-16  
 <150> PCT/US99/30911  
 <151> 1999-12-20  
 <150> PCT/US00/00219  
 <151> 2000-01-05  
 <150> PCT/US00/00376  
 <151> 2000-01-06  
 <150> PCT/US00/03565  
 <151> 2000-02-11  
 <150> PCT/US00/04341  
 <151> 2000-02-18  
 <150> PCT/US00/04414  
 <151> 2000-02-22  
 <150> PCT/US00/04914  
 <151> 2000-02-24  
 <150> PCT/US00/05004  
 <151> 2000-02-24  
 <150> PCT/US00/05841  
 <151> 2000-03-02  
 <150> PCT/US00/06319  
 <151> 2000-03-10  
 <150> PCT/US00/06884  
 <151> 2000-03-15  
 <150> PCT/US00/07377  
 <151> 2000-03-20  
 <150> PCT/US00/08439  
 <151> 2000-03-30  
 <150> PCT/US00/13358  
 <151> 2000-05-15  
 <150> PCT/US00/13705

<151> 2000-05-17

<150> PCT/US00/14042

<151> 2000-05-22

<150> PCT/US00/14941

<151> 2000-05-30

<150> PCT/US00/15264

<151> 2000-06-02

<150> PCT/US00/20710

<151> 2000-07-28

<150> PCT/US00/22031

<151> 2000-08-11

<150> PCT/US00/23522

<151> 2000-08-23

<150> PCT/US00/23328

<151> 2000-08-24

<150> PCT/US00/30952

<151> 2000-11-08

<150> PCT/US00/32678

<151> 2000-12-01

<150> PCT/US01/06520

<151> 2001-02-28

<150> PCT/US01/17800

<151> 2001-06-01

<150> PCT/US01/19692

<151> 2001-06-20

<150> PCT/US01/21066

<151> 2001-06-29

<150> PCT/US01/21735

<151> 2001-07-09

<160> 532

<210> 1

<211> 1943

<212> DNA

<213> Homo sapiens

<400> 1

cggaacgcgtg ggtgcgagggc gaaggtgacc ggggaccgag catttcagat 50

ctgctcggta gacctggtgc accaccacca tggtggctgc aaggctggtg 100

tgtctccgga cactaccttc tagggttttc caccagctt tcaccaaggc 150

ctccctggtt gtgaagaatt ccatacagaa gaatcaatgg ctgttaacac 200

ctagcagggg atatgccacc aaaacaagaa ttgggatccg gcgtgggaga 250

actggccaag aactcaaaga ggcagcattg gaaccatcga tggaaaaaat 300

atttaaaatt gatcagatgg gaagatgggt tgttgctgga ggggctgctg 350  
 ttggtcttgg agcattgtgc tactatggct tgggactgtc taatgagatt 400  
 ggagctattg aaaaggctgt aatttggcct cagtatgtca aggatagaat 450  
 tcattccacc tatatgtact tagcaggag tattggttta acagctttgt 500  
 ctgccatagc aatcagcaga acgcctgttc tcatgaactt catgatgaga 550  
 ggctcttggg tgacaattgg tgtgacctt gcagccatgg ttggagctgg 600  
 aatgctggta cgatcaatac catatgacca gagcccaggc ccaaagcatc 650  
 ttgcttgggt gctacattct ggtgtgatgg gtgcagtggg ggctcctctg 700  
 acaatattag ggggtcctct tctcatcaga gctgcatggg acacagctgg 750  
 cattgtggga ggctctcca ctgtggccat gtgtgcgcc agtgaaaagt 800  
 ttctgaacat ggggtgaccc ctgggagtg gcctgggtct cgtctttgtg 850  
 tcctcattgg gatctatgtt tcttcacct accaccgtgg ctggtgccac 900  
 tctttactca gtggcaatgt acgggtggatt agttcttttc agcatgttcc 950  
 ttctgtatga taccagaaa gtaatcaagc gtgcagaagt atcaccaatg 1000  
 tatggagtgc aaaaatatga tccattaac tcgatgctga gtatctacat 1050  
 ggatacatta aatatattta tgcgagttgc aactatgctg gcaactggag 1100  
 gcaacagaaa gaaatgaagt gactcagctt ctggcttctc tgctacatca 1150  
 aatatcttgt ttaatggggc agatatgcat taaatagttt gtacaagcag 1200  
 ctttcgttga agtttagaag ataagaaaca tgtcatcata tttaaatgtt 1250  
 ccggtaatgt gatgcctcag gtctgccttt ttttctggag aataaatgca 1300  
 gtaatcctct cccaaataag cacacacatt ttcaattctc atgtttgagt 1350  
 gattttaaaa tgttttggtg aatgtgaaaa ctaaagtttg tgtcatgaga 1400  
 atgtaagtct ttttctact ttaaaattta gtaggttcac tgagtaacta 1450  
 aaatttagca aacctgtgtt tgcataattt tttggagtgc agaattattg 1500  
 aattaatgtc ataagtgatt tggagctttg gtaaagggac cagagagaag 1550  
 gagtcacctg cagtcttttg tttttttaa tacttagaac ttagcacttg 1600  
 tgttattgat tagtgaggag ccagtaagaa acatctgggt atttggaac 1650  
 aagtggatcat tgttacattc atttgctgaa cttacaaaa ctgttcatcc 1700  
 tgaaacaggc acaggtgatg cattctctg ctgttgcttc tcagtgtctt 1750  
 ctttccaata tagatgtggg catgtttgac ttgtacagaa tgttaatcat 1800  
 acagagaatc cttgatggaa ttatatatgt gtgttttact tttgaatgtt 1850  
 acaaaaggaa ataactttta aactattctc aagagaaaat attcaaagca 1900



tgaaatatgt tgctttttcc agaatacaaa cagtatactc atg 1943

<210> 2

<211> 345

<212> PRT

<213> Homo sapiens

<400> 2

Met	Leu	Ala	Ala	Arg	Leu	Val	Cys	Leu	Arg	Thr	Leu	Pro	Ser	Arg	1	5	10	15
Val	Phe	His	Pro	Ala	Phe	Thr	Lys	Ala	Ser	Pro	Val	Val	Lys	Asn	20	25	30	
Ser	Ile	Thr	Lys	Asn	Gln	Trp	Leu	Leu	Thr	Pro	Ser	Arg	Glu	Tyr	35	40	45	
Ala	Thr	Lys	Thr	Arg	Ile	Gly	Ile	Arg	Arg	Gly	Arg	Thr	Gly	Gln	50	55	60	
Glu	Leu	Lys	Glu	Ala	Ala	Leu	Glu	Pro	Ser	Met	Glu	Lys	Ile	Phe	65	70	75	
Lys	Ile	Asp	Gln	Met	Gly	Arg	Trp	Phe	Val	Ala	Gly	Gly	Ala	Ala	80	85	90	
Val	Gly	Leu	Gly	Ala	Leu	Cys	Tyr	Tyr	Gly	Leu	Gly	Leu	Ser	Asn	95	100	105	
Glu	Ile	Gly	Ala	Ile	Glu	Lys	Ala	Val	Ile	Trp	Pro	Gln	Tyr	Val	110	115	120	
Lys	Asp	Arg	Ile	His	Ser	Thr	Tyr	Met	Tyr	Leu	Ala	Gly	Ser	Ile	125	130	135	
Gly	Leu	Thr	Ala	Leu	Ser	Ala	Ile	Ala	Ile	Ser	Arg	Thr	Pro	Val	140	145	150	
Leu	Met	Asn	Phe	Met	Met	Arg	Gly	Ser	Trp	Val	Thr	Ile	Gly	Val	155	160	165	
Thr	Phe	Ala	Ala	Met	Val	Gly	Ala	Gly	Met	Leu	Val	Arg	Ser	Ile	170	175	180	
Pro	Tyr	Asp	Gln	Ser	Pro	Gly	Pro	Lys	His	Leu	Ala	Trp	Leu	Leu	185	190	195	
His	Ser	Gly	Val	Met	Gly	Ala	Val	Val	Ala	Pro	Leu	Thr	Ile	Leu	200	205	210	
Gly	Gly	Pro	Leu	Leu	Ile	Arg	Ala	Ala	Trp	Tyr	Thr	Ala	Gly	Ile	215	220	225	
Val	Gly	Gly	Leu	Ser	Thr	Val	Ala	Met	Cys	Ala	Pro	Ser	Glu	Lys	230	235	240	
Phe	Leu	Asn	Met	Gly	Ala	Pro	Leu	Gly	Val	Gly	Leu	Gly	Leu	Val	245	250	255	
Phe	Val	Ser	Ser	Leu	Gly	Ser	Met	Phe	Leu	Pro	Pro	Thr	Thr	Val	260	265	270	
Ala	Gly	Ala	Thr	Leu	Tyr	Ser	Val	Ala	Met	Tyr	Gly	Gly	Leu	Val				

	275		280		285
Leu Phe Ser Met	Phe Leu Leu Tyr Asp	Thr Gln Lys Val Ile Lys			
	290	295			300
Arg Ala Glu Val	Ser Pro Met Tyr Gly	Val Gln Lys Tyr Asp Pro			
	305	310			315
Ile Asn Ser Met	Leu Ser Ile Tyr Met	Asp Thr Leu Asn Ile Phe			
	320	325			330
Met Arg Val Ala	Thr Met Leu Ala Thr	Gly Gly Asn Arg Lys Lys			
	335	340			345

<210> 3  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 3  
 tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 4  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 4  
 caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 5  
 <211> 3033  
 <212> DNA  
 <213> Homo sapiens

<400> 5  
 gaaggctgcc tcgctgggtcc gaattcggtg ggcgcacgtc cgcccgtctc 50  
 cgcctttctgc atcgcggtctt cggcgggttc cacctagaca cctaacagtc 100  
 gcggagccgg ccgcgtcgtg aggggggtcgg cacggggagt cgggcgtct 150  
 tgtgcatctt ggctacctgt gggtcgaaga tgtcggacat cgagactgg 200  
 ttcaggagca tcccggcgat cagcgcctat tggttcgccg ccaccgtcgc 250  
 cgtgcccttg gtcggcaaac tcggcctcat cagcccggcc tacctcttcc 300  
 tctggccoga agccttctt tatcgctttc agatttgag gccaatcact 350  
 gccacctttt atttccctgt gggccagga actggatttc tttatttggt 400  
 caatttatat ttcttatatc agtattctac gcgacttgaa acaggagctt 450  
 ttgatgggag gccagcagac tattttattca tgctcctctt taactggatt 500  
 tgcacgtga ttactggctt agcaatggat atgcagttgc tgatgattcc 550

tctgatcatg tcagtacttt atgtctgggc ccagctgaac agagacatga 600  
 ttgtatcatt ttggtttggg acacgattta aggcctgcta tttaccctgg 650  
 gttatccttg gattcaacta tatcatcgga ggctcggtta tcaatgagct 700  
 tattggaaat ctggttggac atctttattt tttcctaatag ttcagatacc 750  
 caatggactt gggaggaaga aattttctat ccacacctca gtttttgtac 800  
 cgctggctgc ccagtaggag aggaggagta tcaggatttg gtgtgcccc 850  
 tgctagcatg aggcgagctg ctgatcagaa tggcggaggc gggagacaca 900  
 actggggcca gggctttcga cttggagacc agtgaagggg cggcctcggg 950  
 cagccgctcc tctcaagcca catttctctc cagtgcctggg tgcacttaac 1000  
 aactgcgttc tggctaacac tgttggacct gaccacact gaatgtagtc 1050  
 tttcagtagc agacaaagt tcttaaatacc cgaagaaaaa tataagtgtt 1100  
 ccacaagttt cagcattctc attcaagtc ttactgctgt gaagaacaaa 1150  
 taccaactgt gcaaattgca aaactgacta ctttttttgg tgtcttctct 1200  
 tctccccttt ccgtctgaat aatgggtttt agcgggtcct aatctgctgg 1250  
 cattgagctg gggctgggtc accaaaacct tcccaaaagg accttatctc 1300  
 tttcttgcac acatgcctct ctcccacttt tcccaacccc cacatttgca 1350  
 actagaaaaa gttgccata aaattgctct gcccttgaca ggttctgtta 1400  
 tttattgact tttgccaagg ctggtcacaa caatcatatt caggttattt 1450  
 tccccttttg gtggcagaac tgttaccaat agggggagaa gacagccacg 1500  
 gatgaagcgt ttctcagctt ttggaattgc ttgcactgac atccgttggt 1550  
 aaccgtttgc cactcttcag atatttttta taaaaaagt accactgagt 1600  
 tcatgagggc cacagatttg ttattaatga gatacgaggg ttggtgctgg 1650  
 gtgtttgttt cctgagctaa gtgatcaaga ctgtagtgga gttgcagcta 1700  
 acatgggtta ggtttaaacc atgggggatg caccoccttg cgtttcatat 1750  
 gtagccctac tggctttgtg tagctggagt agttgggttg ctttgtgtta 1800  
 ggaggatcca gatcatgttg gctacaggga gatgctctct ttgagaggtc 1850  
 ctgggcattg attccattt caatctcatt ctggatatgt gttcattgag 1900  
 taaaggagga gagaccctca tacgctattt aaatgtcact tttttgcta 1950  
 tccccgttt tttggtcatg tttcaattaa ttgtgaggaa ggcgcagctc 2000  
 ctctctgcac gtagatcatt ttttaaagct aatgtaagca catctaaggg 2050  
 aataacatga ttttaagggtg aaatggcttt agaatacttt gggtttgagg 2100  
 gtgtgttatt ttgagtcag aatgtacaag ctctgtgaat cagaccagct 2150

taaataccca cacctttttt togtaggtgg gcttttccta tcagagcttg 2200  
 gctcataacc aaataaagtt ttttgaaggc catggctttt cacacagtta 2250  
 ttttatttta tgacgttatc tgaaagcaga ctgtaggag cagtattgag 2300  
 tggctgtcac actttgaggc aactaaaaag gcttcaaacg ttttgatcag 2350  
 tttcttttca ggaaacattg tgctctaaca gtatgactat tctttcccc 2400  
 actcttaaac agtgtgatgt gtgttatcct aggaaatgag agttggcaaa 2450  
 caacttctca ttttgaatag agtttgtgtg tacttctcca tatttaattt 2500  
 atatgataaa ataggtgggg agagtctgaa ccttaactgt catgttttgt 2550  
 tgttcatctg tggccacaat aaagtttact tgtaaaattt tagaggccat 2600  
 tactccaatt atgttgcaag tacactcatt gtacaggcgt ggagactcat 2650  
 tgtatgtata agaatatitc tgacagttag tgacccggag tctctggtgt 2700  
 accctcttac cagtcagctg cctgcgagca gtcatttttt cctaaagggt 2750  
 tacaagtatt tagaactttt cagttcaggg caaaatgttc atgaagttat 2800  
 tcctotaaaa catggtagg aagctgatga cgttattgat tttgtctgga 2850  
 ttatgtttct ggaataattt taccaaaaca agctatttga gttttgactt 2900  
 gacaaggcaa aacatgacag tggattctct ttacaaatgg aaaaaaaaaa 2950  
 tccttatttt gtataaagga cttccctttt tgtaaaactaa tcctttttat 3000  
 tggtaaaaat tgtaaatata aatgtgcaac ttg 3033

<210> 6  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
 Met Ser Asp Ile Gly Asp Trp Phe Arg Ser Ile Pro Ala Ile Thr  
 1 5 10 15  
 Arg Tyr Trp Phe Ala Ala Thr Val Ala Val Pro Leu Val Gly Lys  
 20 25 30  
 Leu Gly Leu Ile Ser Pro Ala Tyr Leu Phe Leu Trp Pro Glu Ala  
 35 40 45  
 Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
 50 55 60  
 Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
 65 70 75  
 Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
 80 85 90  
 Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
 95 100 105

Trp	Ile	Cys	Ile	Val	Ile	Thr	Gly	Leu	Ala	Met	Asp	Met	Gln	Leu
				110					115					120
Leu	Met	Ile	Pro	Leu	Ile	Met	Ser	Val	Leu	Tyr	Val	Trp	Ala	Gln
				125					130					135
Leu	Asn	Arg	Asp	Met	Ile	Val	Ser	Phe	Trp	Phe	Gly	Thr	Arg	Phe
				140					145					150
Lys	Ala	Cys	Tyr	Leu	Pro	Trp	Val	Ile	Leu	Gly	Phe	Asn	Tyr	Ile
				155					160					165
Ile	Gly	Gly	Ser	Val	Ile	Asn	Glu	Leu	Ile	Gly	Asn	Leu	Val	Gly
				170					175					180
His	Leu	Tyr	Phe	Phe	Leu	Met	Phe	Arg	Tyr	Pro	Met	Asp	Leu	Gly
				185					190					195
Gly	Arg	Asn	Phe	Leu	Ser	Thr	Pro	Gln	Phe	Leu	Tyr	Arg	Trp	Leu
				200					205					210
Pro	Ser	Arg	Arg	Gly	Gly	Val	Ser	Gly	Phe	Gly	Val	Pro	Pro	Ala
				215					220					225
Ser	Met	Arg	Arg	Ala	Ala	Asp	Gln	Asn	Gly	Gly	Gly	Gly	Arg	His
				230					235					240
Asn	Trp	Gly	Gln	Gly	Phe	Arg	Leu	Gly	Asp	Gln				
				245					250					

<210> 7  
 <211> 1373  
 <212> DNA  
 <213> Homo sapiens

<400> 7  
 ggggccgcgg tctagggcgg ctacgtgtgt tgccatagcg accattttgc 50  
 attaaactggt tggtagcttc tctcctgggg gctgagcgac tgcgggccag 100  
 ctcttcccct actccctctc ggctccttgt ggcccaaagg cctaaccggg 150  
 gtccggcgggt ctggcctagg gatcttcccc gttgcccctt tggggcgga 200  
 tggctgcgga agaagaagac gaggtggagt gggtagtgga gagcatcgcg 250  
 gggttcctgc gagggccaga ctggtccatc cccatcttgg actttgtgga 300  
 acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350  
 gccagagcc ggtgattttg gtggcctgtg ttccccttgt ttttgatgat 400  
 gaagaagaaa gcaaattgac ctatacagag attcatcagg aatacaaaga 450  
 actagttaga aagctgttag aaggttacct caaagaaatt ggaattaatg 500  
 aagatcaatt tcaagaagca tgcacttctc ctcttgcaaa gaccataca 550  
 tcacaggcca ttttgcaacc tgtgttgga gcagaagatt ttactatctt 600  
 taaagcaatg atggtccaga aaacattga aatgcagctg caagccattc 650  
 gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700

tctgatgtgg tcagtgcct tgaacacgaa gagatgaaaa tcctgagggg 750  
 agttcttaga aaatcaaaag aggaatatga ccaggaagaa gaaaggaaga 800  
 ggaaaaaaca gttatcagag gctaaaacag aagagcccac agtgcattcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
 acacccaccc tcagaagtta aaatgcattt tgctaatacag tcaatagaac 950  
 ctttggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
 ggctgaaga ttctggctt agagcatgcg agcattgaag gaccaatagc 1050  
 aaacttatca gtacttgga cagaagaact tcggcaacga gaacactatc 1100  
 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaacccactg gggaggtaga 1200  
 ggaaatgaca gagaaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtcottaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Ala Ala Glu Glu Glu Asp Glu Val Glu Trp Val Val Glu Ser  
 1 5 10 15  
 Ile Ala Gly Phe Leu Arg Gly Pro Asp Trp Ser Ile Pro Ile Leu  
 20 25 30  
 Asp Phe Val Glu Gln Lys Cys Glu Val Asn Cys Lys Gly Gly His  
 35 40 45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys  
 50 55 60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr  
 65 70 75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu  
 80 85 90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln  
 95 100 105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala  
 110 115 120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys  
 125 130 135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile  
 140 145 150

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr
				155					160					165
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys
				170					175					180
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln
				185					190					195
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr
				200					205					210
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn
				215					220					225
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val
				230					235					240
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys
				245					250					255
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys
				260					265					270
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn
				275					280					285
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr
				290					295					300
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met
				305					310					315
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr
				320					325					330
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu
				335					340					345
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu
				350					355					360
Lys	Glu	Glu	Val	Ile	Asn	Lys								
				365										

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
 gggcacagca catgtgaagt ttttgatgat gaagaagaaa gcaaattgac 50  
 ctatacagag attcatcagg aatacaaaga actagttgaa aagctgtag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcacttctc ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat tttactatct ttaaagcaat gatggtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt ccctcaggat ttt 23

<210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atgaagatca atttcaagaa gcatgcactt ctcctcttgc 40

<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
 gcgtgggtttt tggtctgcaa taggcggctt agagggaggg gctttttcgc 50  
 ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 100  
 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
 cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 200  
 acagtgctgt agtcatcctg taatatgctc cttgtcaaca atgtatacat 250  
 tcctgctagg tgccatattc attgctttta gctcaagtgc catcttacta 300  
 gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
 tgtgaatgtg tgctcagaac tggatgaagct agttttctgt gtgcttctgt 400  
 cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



[illegible]

cagacacaac atctcagaat ttttaattttt agaaattcat gggaaattgg 2100  
atTTTTgtaa taatcttttg atgtttttaa cattgggtcc ctagtcacca 2150  
tagttaccac ttgtatttta agtcatttaa acaagccacg gtggggcttt 2200  
tttctcctca gtttgaggag aaaaatcttg atgtcattac tcctgaatta 2250  
ttacattttg gagaataaga gggcatttta ttttattagt tactaattca 2300  
agctgtgact attgtatatc tttccaagag ttgaaatgct ggcttcagaa 2350  
tcataccaga ttgtcagtga agctgatgcc taggaacttt taaagggatc 2400  
ctttcaaaag gatcaacttag caaacacatg ttgactttta actgatgtat 2450  
gaatattaat actctaaaaa tagaaagacc agtaatatat aagtcacttt 2500  
acagtgtac ttcacactta aaagtgcagtg gtatttttca tgggtatttg 2550  
catgcagcca gttaactctc gtagatagag aagtcaggtg atagatgata 2600  
ttaaaaatta gcaaacaaaa gtgacttgct caggggtcatg cagctgggtg 2650  
atgatagaag agtgggcttt aactggcagg cctgtatgtt tacagactac 2700  
catactgtaa atatgagctt tatggtgtca ttctcagaaa cttatacatt 2750  
tctgctctcc tttctcctaa gtttcatgca gatgaatata aggtaatata 2800  
ctattatata attcatttgt gatatccaca ataatatgac tggcaagaat 2850  
tggtggaat ttgtaattaa aataattatt aaacct 2886

<210> 14  
<211> 424  
<212> PRT  
<213> Homo sapiens

<400> 14  
Met Glu Lys Gln Cys Cys Ser His Pro Val Ile Cys Ser Leu Ser  
1 5 10 15  
Thr Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser  
20 25 30  
Ser Ser Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn  
35 40 45  
Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu  
50 55 60  
Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys  
65 70 75  
Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu  
80 85 90  
Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe  
95 100 105  
Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gln Pro  
110 115 120



<210> 15  
<211> 755  
<212> DNA  
<213> Homo sapiens

<400> 15  
cgtgcctgcg caatgggtgt cgggtccgct ttttcccaat ccggacgtaa 50  
tcgtggtttt tgttctgcaa taggcggcct agagggaggg gctttttcgc 100  
ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 200  
cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 250  
acagtgtgtg agtcatcctg taatatgctc cttgtcaaca atgtatacat 300  
tcctgctagg tgccatattc attgctttta gctcaagtcg catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatattgct 500  
tcctggaagg aattctctga tticattgaag tgggccattc ctgcctttct 550  
ttatttcctg gataacttga ttgtcttcta tgcctgtcc tatcttcaac 600  
cagccatggc tgttatcttc tcaaatTTTA gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttccagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtgtgt agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

cggacgcgtg ggcggacgcg tgggcgacg cgtggggccg gcttggctag 50  
cgcgcggcgg ccgtggctaa ggctgctacg aagcgagctt gggaggagca 100  
gcggcctgcg gggcagagga gcatcccgtc taccaggtcc caagcggcgt 150  
ggccccgcggg tcatggccaa aggagaaggc gccgagagcg gctccgcggc 200  
ggggctgcta cccaccagca tcttccaaag cactgaacgc ccggcccagg 250  
tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgccct 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtggggccctt 400  
tctctgcctc catcatcctg tttgtgggcc gagcctggga tgccatcaca 450  
gacccccctg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
tcgccttatg ccctggatca tcttctccac gccctggcc gtcattgcct 550  
acttcctcat ctggttcgtg cccgacttcc cacacggcca gacctattgg 600  
tacctgcttt totattgct ctttgaaaca atgggtcacgt gtttccatgt 650  
tccctactcg gctctcacca tgttcatcag caaccgagca gactgagcgg 700  
gattctgcca ccgcctatcg gatgactgtg gaagtgtctg gcacagtgt 750  
gggcacggcg atccaggac aaatcgtggg ccaagcagac acgccttggt 800  
tccaggactt caatagctct acagtagctt caciaagtgc caaccataca 850  
catggcacca cttcacacag ggaaacgcaa aaggcatacc tgctggcagc 900  
gggggtcatt gtctgtatct atataatctg tgctgtcatc ctgatcctgg 950  
gcgtgcggga gcagagagaa ccctatgaag ccagcagtc tgagccaatc 1000  
gcctacttcc ggggcctacg gctgggtcatg agccacggcc catacatcaa 1050  
acttattact ggcttcctct tcacctcctt ggctttcatg ctggtggagg 1100  
ggaactttgt cttgttttgc acctacacct tgggcttccg caatgaattc 1150  
cagaatctac tcttgcccat catgctctcg gccactttaa ccattcccat 1200  
ctggcagtgg ttcttgacct ggtttggcaa gaagacagct gtatatgttg 1250

ggatctcatc agcagtgcc tttctcatct tggtagccct catggagagt 1300  
aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtgtggc 1350  
agctgccttc ttactaccct ggtccatgct gcctgatgtc attgacgact 1400  
tccatctgaa gcagcccccac ttccatggaa ccgagcccat cttcttctcc 1450  
ttctatgtct tcttcaccaa gtttgctctt ggagtgtcac tgggcatttc 1500  
taccctcagt ctggactttg cagggtagca gaccctgggc tgctcgagc 1550  
cggaacgtgt caagtttaca ctgaacatgc tcgtgacct ggctcccata 1600  
gttctcatcc tgctgggcct gctgctcttc aaaatgtacc ccattgatga 1650  
ggagaggcgg cggcagaata agaaggccct gcaggcactg agggacgagg 1700  
ccagcagctc tggctgtctc gaaacagact ccacagagct ggctagcatc 1750  
ctctagggcc cgccacgttg cccgaagcca ccatgcagaa ggccacagaa 1800  
gggatcagga cctgtctgcc ggcttgctga gcagctggac tgcaggtgct 1850  
aggaagggaa ctgaagactc aaggaggtgg ccaggacac ttgctgtgct 1900  
cactgtgggg ccggtgtctc tgtggcctcc tgcctcccct ctgctgcct 1950  
gtggggccaa gccctggggc tgccactgtg aatatgcaa ggactgatcg 2000  
ggcctagccc ggaacactaa tgtagaaacc ttttttttac agagccta 2050  
taataactta atgactgtgt acatagcaat gtgtgtgtat gtatatgtct 2100  
gtgagctatt aatgttatta attttcataa aagctggaaa gc 2142

<210> 20  
<211> 458  
<212> PRT  
<213> Homo sapiens

<400> 20  
Met Trp Leu Arg Trp Ala Leu Ser Leu Pro Pro Ser Ser Cys Leu  
1 5 10 15  
Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
20 25 30  
Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
35 40 45  
Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
50 55 60  
Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
65 70 75  
Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
80 85 90  
Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
95 100 105



Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
 425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
 440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
 455

<210> 21  
 <211> 571  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
 gggaaacgca aaaggcatac ctgctggcag cgggggtcat tgtctgtatc 50  
 tatataatct gtgctgtcat cctgatcctg ggcgtgcggg agcagagaga 100  
 accctatgaa gccagcagct ctgagccaat cgcctacttc cggggcctac 150  
 ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
 ttcacctcct tggctttcat gctggtggag gggaaactttg tcttgttttg 250  
 cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctcttgcca 300  
 tcatgctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
 cggtttggca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
 atttctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
 cggtagctgt ggcagctggc atcagtgtag cagctgcctt cttactaccc 500  
 tggccatgct tgcctgatgt cattgaagac ttccatctga agcagcccca 550  
 cttccatgga accgagccca t 571

<210> 22  
 <211> 1173  
 <212> DNA  
 <213> Homo sapiens

<400> 22  
 ggggcttcgg cgccagcggc cagcgttagt cggctctgga aggatttaca 50  
 aaagggtcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
 aaacagaaaa cctgttagaa atgtggtggt ttcagcaagg cctcagtttc 150  
 ctctcttcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
 cattactgca gtaacactcc accatataga cccggcttta cttatatca 250  
 gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
 aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
 agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
 ctggccttgt acttgggaata ctgagttgtt taggactttc tattgtggca 450



aacttccaga aaacaaccct ttttgctgca catgtaagtg gagctgtgct 500  
 tacctttggt atgggctcat tatatatggt tgttcagacc atcctttcct 550  
 accaaatgca gcccaaaatc catggcaaac aagtcttctg gatcagactg 600  
 ttgttggtta tctggtgtgg agtaagtgca cttagcatgc tgacttgctc 650  
 atcagttttg cacagtggca attttgggac tgatttagaa cagaaactcc 700  
 attggaaccc cgaggacaaa gggttatgtgc ttcacatgat cactactgca 750  
 gcagaatggt ctatgtcatt ttccttcttt gggtttttcc tgacttacat 800  
 tcgtgatttt cagaaaattt ctttacgggt ggaagccaat ttacatggat 850  
 taaccctcta tgacactgca ccttgcccta ttaacaatga acgaacacgg 900  
 ctactttcca gagatatattg atgaaaggat aaaatatttc tgtaatgatt 950  
 atgattctca gggattgggg aaaggttcac agaagttgct tattcttctc 1000  
 tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
 gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
 atcatcaaga agactattaa aaacacctat gcctatactt ttttatctca 1150  
 gaaaataaaag tcaaaagact atg 1173

<210> 23  
 <211> 266  
 <212> PRT  
 <213> Homo sapiens

<400> 23  
 Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
 1 5 10 15  
 Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
 20 25 30  
 Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
 35 40 45  
 Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
 50 55 60  
 Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
 65 70 75  
 Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
 80 85 90  
 Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
 95 100 105  
 Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
 110 115 120  
 His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
 125 130 135

Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile
				140					145					150
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp
				155					160					165
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu
				170					175					180
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp
				185					190					195
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala
				200					205					210
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr
				215					220					225
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn
				230					235					240
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn
				245					250					255
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile				
				260					265					

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
 cggacgcttg ggcngcgcca gcggccagcg ctagtcggtc tggttaagtgc 50  
 ctgatgccga gttccgtctc tcgggtcttt tcttggtccc aggcaaagcg 100  
 gagcggagat cctcaaacgg cctagtgcctt cgcgcttccg gagaaaatca 150  
 gcgggtctaataattcctct ggtttggtga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtag acgttcctgt tgagtacacg 250  
 ttctgttgga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttggtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtgggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcatatt ttcatacatt actgcagtaa cactccacca tatagacccg 450  
 gctttacctt atatcagtga cactgggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg tticagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
cccacgcgtc cgcccgccgc tgcgtcccgc agtgcaagtg agcttctcgc 50  
ctgccccgcg ggccgggggtg cggagccgac atgcgcccgc ttctcggcct 100  
ccttctgggtc ttgcgcggct gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcgaggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tccccctcca cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgcccta cctctacaaa cagggttttg ccatccccgc ctccagcttc 350  
ctgaatgttt tagctgggtgc cttgtttggg ccatggctgg ggcttctgct 400  
gtgctgtgtg ttgacctcg tgggtgccac atgctgttac ctgctctcca 450  
gtatTTTTTgg caaacagttg gtgggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaagggtga ggagaacaga aacagcttgt tttttttctt 550  
attgtttttg agacttttcc ccatgacacc aaactgggtc ttgaacctct 600  
cggccccaat tctgaacatt cccatcgtgc agttcttctt ctcagttctt 650  
atcggtttga tcccatataa ttcatctgt gtgcagacag ggtccatcct 700  
gtcaacccta acctctctgg atgctctttt ctctgggac actgtcttta 750  
agctgttggc cattgccatg gtggcattaa ttcttgaac cctcattaaa 800  
aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaatca 850  
tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatga tgtggtcctc taaagcccct 950  
cattgttttt gattgccttc tataggatgat gtggacactg tgcataaatg 1000

tgcagtgtct tttcagaaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgcagt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28

<211> 264

<212> PRT

<213> Homo sapiens

<400> 28

Met	Arg	Pro	Leu	Leu	Gly	Leu	Leu	Leu	Val	Phe	Ala	Gly	Cys	Thr	1	5	10	15
Phe	Ala	Leu	Tyr	Leu	Leu	Ser	Thr	Arg	Leu	Pro	Arg	Gly	Arg	Arg	20	25	30	
Leu	Gly	Ser	Thr	Glu	Glu	Ala	Gly	Gly	Arg	Ser	Leu	Trp	Phe	Pro	35	40	45	
Ser	Asp	Leu	Ala	Glu	Leu	Arg	Glu	Leu	Ser	Glu	Val	Leu	Arg	Glu	50	55	60	
Tyr	Arg	Lys	Glu	His	Gln	Ala	Tyr	Val	Phe	Leu	Leu	Phe	Cys	Gly	65	70	75	
Ala	Tyr	Leu	Tyr	Lys	Gln	Gly	Phe	Ala	Ile	Pro	Gly	Ser	Ser	Phe	80	85	90	
Leu	Asn	Val	Leu	Ala	Gly	Ala	Leu	Phe	Gly	Pro	Trp	Leu	Gly	Leu	95	100	105	
Leu	Leu	Cys	Cys	Val	Leu	Thr	Ser	Val	Gly	Ala	Thr	Cys	Cys	Tyr	110	115	120	
Leu	Leu	Ser	Ser	Ile	Phe	Gly	Lys	Gln	Leu	Val	Val	Ser	Tyr	Phe	125	130	135	
Pro	Asp	Lys	Val	Ala	Leu	Leu	Gln	Arg	Lys	Val	Glu	Glu	Asn	Arg	140	145	150	
Asn	Ser	Leu	Phe	Phe	Phe	Leu	Leu	Phe	Leu	Arg	Leu	Phe	Pro	Met	155	160	165	
Thr	Pro	Asn	Trp	Phe	Leu	Asn	Leu	Ser	Ala	Pro	Ile	Leu	Asn	Ile	170	175	180	
Pro	Ile	Val	Gln	Phe	Phe	Phe	Ser	Val	Leu	Ile	Gly	Leu	Ile	Pro	185	190	195	
Tyr	Asn	Phe	Ile	Cys	Val	Gln	Thr	Gly	Ser	Ile	Leu	Ser	Thr	Leu	200	205	210	

Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu  
 215 220 225

Leu Ala Ile Ala Met Val Ala Leu Ile Pro Gly Thr Leu Ile Lys  
 230 235 240

Lys Phe Ser Gln Lys His Leu Gln Leu Asn Glu Thr Ser Thr Ala  
 245 250 255

Asn His Ile His Ser Arg Lys Asp Thr  
 260

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgagggcggg agggagcccga gggggcgcgga gccccgcatg aatcattgta 50  
 gtcaatcatt ttccagttct cagccgctca gttgtgatca agggacacgt 100  
 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggt gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctgagagacc cccccgcgag tatcctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat cttgctcaact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggctgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattctgcc aactgcactg gctgtgcca gaaacacctg 650  
 aaggtgatgc tcctggaaga cgccccagg aaatttgaga ggctccatcc 700  
 actggtgatc aagacgggaa agcccctgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtacctgag gcgacagaag gcttctctga agggtttttc 800  
 gccaaagtggg ggcgctgctt tcctgagcgg tggttcccat ttccttatcc 850  
 atggaggaga cctctgaaca gatcacaaat gttacgtgag ctttttcctg 900  
 ttttactca cctgccatct ccaaagatg cctctttaaa caagtgtctc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgcctga 1000  
 cctatttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgccg aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
 gatatcggct atgtcgacac caccactgg aaggtctacg ttatagccag 1150

aggggtccag ccttttggtca tctgcgatgg aaccgctttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggt 1250  
 gaaaggggaa aaataaaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser  
 1 5 10 15  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met  
 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
				260					265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
				275					280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
				290					295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
				305					310					315
Ile	Gly	Tyr	Val	Asp	Thr	Thr	His	Trp	Lys	Val	Tyr	Val	Ile	Ala
				320					325					330
Arg	Gly	Val	Gln	Pro	Leu	Val	Ile	Cys	Asp	Gly	Thr	Ala	Phe	Ser
				335					340					345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ccacggtgtc cggttcttcgc ccggcggcag ctgtccccga ggcgggagga 50  
 gcccgagggg cgcgagcccc gcatgaatca ttgtagtcaa tcattttcca 100  
 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgagg 400  
 ttaatcttgc tcaactgcta ctttgtgatt caacctttca gccattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 cccacggtc cgccacgcg tccggctgaa cacctcttct ttggagtcag 50  
 ccaactgatga ggcaggggtcc ccaacttcag ctgcagcagc tgcagcagct 100  
 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcagtgggg actgccctcc ctgccacca 200  
 ccaatggcag cccaccttc tttgaagact tccaggcttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtcgtcg ggccttccag gagctggtgc tggaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcactcc atggccctgc tgcaactggg ggcgctgtgg 550  
 cgccagctcg ccagcccatg tggggcctgg gcgctgaggg aactcccat 600  
 ccccgctgg aaactgtcca gcgccgagac atattcacgc atgcgtctga 650  
 agctggtgcc caaccatcac ttcgaccctc acctggaagc cagcgctctc 700  
 cgagacaatc tgggtgaggt tccctgaca cccaccgagg aggcctcact 750  
 gcctctggca gtgaccaaag aggccaaagt gagcaccca cccgagttgc 800  
 tgcaggagga ccagctcggc gaggacgagc tggctgagct ggagaccccg 850  
 atggaggcag cagaactgga tgagcagcgt gagaagctgg tgctgtcggc 900  
 cgagtgccag ctggtgacgg tagtggccgt ggtcccaggg ctgctggagg 950  
 tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
 accgaggagg gcatcggcta tgatttccgg cgcacctgg cccagctgcg 1050  
 tgaggtccac ctgcggcgtt tcaacctgcg ccgttcagca cttgagctct 1100  
 tctttatcga tcaggccaac tacttctca acttcccatg caagggtggc 1150  
 acgaccccag tctcatctcc tagccagact ccgagacccc agcctggccc 1200  
 catcccacc cataccagg tacggaacca ggtgtactcg tggctcctgc 1250  
 gcctacggcc cccctctcaa ggctacctaa gcagcgcgc ccccaggag 1300  
 atgctgcgtg cctcaggcct taccagaaa tgggtacagc gtgagatata 1350  
 caacttcgag tacttgatgc aactcaacac cattgcgggg cggacctaca 1400  
 atgacctgtc tcagtacct gtgttccct gggtcctgca ggactacgtg 1450  
 tccccaacct tggacctcag caaccagacc gtcttccggg acctgtctaa 1500  
 gcccatcggg gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
 atgaaagctt tgaggacca gcagggaacca ttgacaagtt ccaactatggc 1600  
 acccactact ccaatgcagc aggcgtgatg cactaactca tccgcgtgga 1650  
 gcccttcacc tccctgcacg tccagctgca aagtggcgc tttgactgct 1700  
 ccgaccggca gttccactcg gtggcggcag cctggcaggc acgcctggag 1750  
 agccctgcg atgtgaagga gtcacatccg gaattcttct actttcctga 1800  
 cttcctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850



acgagaaggt aggcgatgtg gtgctacccc cgtgggccag ctctcctgag 1900  
gacttcatcc agcagcaccg ccaggctctg gagtcggagt atgtgtctgc 1950  
acacctacac gaggtgatcg acctcatctt tggctacaag cagcgggggc 2000  
cagccgcoga ggaggcoctc aatgtcttct attactgcac ctatgagggg 2050  
gctgtagacc tggaccatgt gacagatgag cgggaacgga aggctctgga 2100  
gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
cacatccaac tcggctctca gctgaggaag cagcccatcg ccttgcacgc 2200  
ctggacacta actcacctag catcttccag cacctggacg aactcaaggc 2250  
attcttcoga gaggtgactg tgagtgccag tgggctgctg ggcaccaca 2300  
gctggttgcc ctatgaccgc aacataagca actacttcag cttcagcaaa 2350  
gacccaccca tgggcagcca caagacgcag cgactgctga gtggcccggtg 2400  
ggtgccaggc agtgggtgtga gtggacaagc actggcagtg gccccggatg 2450  
gaaagctgct attcagcggg gccactggg atggcagcct gcgggtgact 2500  
gcactacccc gtggcaagct gttgagccag ctcagctgcc accttgatgt 2550  
agtaacctgc cttgcaactg acacctgtgg catctacctc atctcaggct 2600  
ccogggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtgtctg 2650  
tcagtaggcc tggcaccaaa gcctgtgcag gtccctgtatg ggcattggggc 2700  
tgcaagtgagc tgtgtggcca tcagcactga acttgacatg gctgtgtctg 2750  
gatctgagga tggaactgtg atcatacaca ctgtacgccg cggacagttt 2800  
gtagcggcac tacggcctct gggtgccaca ttccctggac ctattttcca 2850  
cctggcattg gggctccgaag gccagattgt ggtacagagc tcagcgtggg 2900  
aacgtcctgg ggcccaggtc acctactcct tgcacctgta ttcagtcaat 2950  
gggaagttgc gggcttcact gccctggca gagcagccta cagccctgac 3000  
ggtgacagag gacttttgtt tgctgggcac cgcccagtgcc gccctgcaca 3050  
tcctccaact aaacacactg ctcccggccg cgctccctt gcccatgaag 3100  
gtggccatcc gcagcgtggc cgtgaccaag gagcgcagcc acgtgctggt 3150  
gggcctggag gatggcaagc tcatcgtggt ggtcgcgggg cagccctctg 3200  
agggtgcgag cagccagttc gcgcggaagc tgtggcggtc ctcgcggcgc 3250  
atctcccagg tgtcctcggg agagacggaa tacaacccta ctgaggcgcg 3300  
ctgaacctgg ccagtccggc tgctcgggcc ccgccccggc caggcctggc 3350  
ccgggaggcc ccgccagaa gtcggcgga acacccccgg gtgggcagcc 3400  
cagggggtga gcggggccca ccctgcccag ctcagggtt ggcgggcgat 3450

gttaccctcct cagggattgg cgggoggaag tcccggccct cgccggctga 3500  
 ggggccgccc tgagggccag cactggcgtc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Ser Gln Phe Glu Met Asp Thr Tyr Ala Lys Ser His Asp Leu  
 1 5 10 15  
 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225  
 Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly  
 230 235 240  
 Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val  
 245 250 255  
 His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe  
 260 265 270



Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys	590	595	600
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln	605	610	615
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala	620	625	630
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe	635	640	645
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val	650	655	660
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp	665	670	675
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met	680	685	690
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro	695	700	705
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly	710	715	720
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val	725	730	735
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His	740	745	750
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr	755	760	765
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu	770	775	780
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val	785	790	795
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile	800	805	810
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr	815	820	825
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu	830	835	840
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala	845	850	855
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu	860	865	870
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val	875	880	885
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr	890	895	900

Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln	
				905					910					915	
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala	
				920					925					930	
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr	
				935					940					945	
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu	
				950					955					960	
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln	
				965					970					975	
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val	
				980					985					990	
Ser	Ser	Gly	Glu	Thr	Glu	Tyr	Asn	Pro	Thr	Glu	Ala	Arg			
				995					1000						

<210> 34  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 34  
 tgactgcact accccgtggc aagctgttga gccagctcag ctg 43

<210> 35  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 cggacgcgtg ggcggacgcg tgggggctgt gagaaagtgc caataaatac 50  
 atcatgcaac cccaaggccc accttgtgaa ctccctcgtgc ccagggctga 100  
 tgtgcgctctt ccagggctac tcatccaaag gcctaatacca acgttctgtc 150  
 ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
 ggtactggcc ctggggccaat gcgtcctcgc tggagccttt gcctccttct 250  
 actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300  
 gccttcatcc gcacactccg ttaccacact gggtcattgg catttgagc 350  
 cctcatcctg acccttgtgc agatagcccc ggtcatcttg gagtatattg 400  
 accacaagct cagaggagtg cagaaccctg tagcccgtg catcatgtgc 450  
 tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500  
 ccgcaatgca tacatcatga tcgccatcta cggaagaat ttctgtgtct 550  
 cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtggtc 600  
 gtcttgaca aagtcacaga cctgctgctg ttctttggga agctgctggt 650

ggtcggaggc gtgggggtcc tgctcttctt ttttttctcc ggtcgcatcc 700  
 cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcacgcca gcggcttctt 800  
 cagcgttttc ggcatgtgtg tggacacgct ctctctctgc ttcctggaag 850  
 acctggagcg gaacaacggc tccctggacc ggccctacta catgtccaag 900  
 agcctttctaa agattctggg caagaagaac gaggcgcccc cggacaacaa 950  
 gaagaggaag aagtgcacgc tccggccctg atccaggact gcaccccacc 1000  
 cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050  
 tggtaaaaaa aggttttagg ccaggcgccg tggctcacgc ctgtaatcca 1100  
 acactttgag aggctgaggc gggcggatca cctgagtcag gagttcgaga 1150  
 ccagcctggc caacatggtg aaacctcgt ctctattaaa aatacaaaaa 1200  
 ttagccgaga gtggtggcat gcacctgtca tcccagctac tcgggagggt 1250  
 gaggcaggag aatcgcttga acccgggagg cagaggttgc agtgagccga 1300  
 gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
 aaacaaacaa acaaaaagat tttattaaag atattttggt aactc 1395

<210> 36  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Arg Thr Arg Gly Arg Thr Arg Gly Gly Cys Glu Lys Val Pro Ile  
 1 5 10 15  
 Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val Asn Ser Ser Cys  
 20 25 30  
 Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys Gly Leu  
 35 40 45  
 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly  
 50 55 60  
 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val  
 65 70 75  
 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro  
 80 85 90  
 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr  
 95 100 105  
 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu  
 110 115 120  
 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His  
 125 130 135

Lys	Leu	Arg	Gly	Val	Gln	Asn	Pro	Val	Ala	Arg	Cys	Ile	Met	Cys	
				140					145					150	
Cys	Phe	Lys	Cys	Cys	Leu	Trp	Cys	Leu	Glu	Lys	Phe	Ile	Lys	Phe	
				155					160					165	
Leu	Asn	Arg	Asn	Ala	Tyr	Ile	Met	Ile	Ala	Ile	Tyr	Gly	Lys	Asn	
				170					175					180	
Phe	Cys	Val	Ser	Ala	Lys	Asn	Ala	Phe	Met	Leu	Leu	Met	Arg	Asn	
				185					190					195	
Ile	Val	Arg	Val	Val	Val	Leu	Asp	Lys	Val	Thr	Asp	Leu	Leu	Leu	
				200					205					210	
Phe	Phe	Gly	Lys	Leu	Leu	Val	Val	Gly	Gly	Val	Gly	Val	Leu	Ser	
				215					220					225	
Phe	Phe	Phe	Phe	Ser	Gly	Arg	Ile	Pro	Gly	Leu	Gly	Lys	Asp	Phe	
				230					235					240	
Lys	Ser	Pro	His	Leu	Asn	Tyr	Tyr	Trp	Leu	Pro	Ile	Met	Thr	Ser	
				245					250					255	
Ile	Leu	Gly	Ala	Tyr	Val	Ile	Ala	Ser	Gly	Phe	Phe	Ser	Val	Phe	
				260					265					270	
Gly	Met	Cys	Val	Asp	Thr	Leu	Phe	Leu	Cys	Phe	Leu	Glu	Asp	Leu	
				275					280					285	
Glu	Arg	Asn	Asn	Gly	Ser	Leu	Asp	Arg	Pro	Tyr	Tyr	Met	Ser	Lys	
				290					295					300	
Ser	Leu	Leu	Lys	Ile	Leu	Gly	Lys	Lys	Asn	Glu	Ala	Pro	Pro	Asp	
				305					310					315	
Asn	Lys	Lys	Arg	Lys	Lys										
				320											

<210> 37  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 37  
 tcgtgcccag gggctgatgt gc 22

<210> 38  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 38  
 gtctttaccc agccccggga tgcg 24

<210> 39  
 <211> 50

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaatacc aacgtttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
gagtcttgac cgccgccggg ctcttggtac ctcagcgcga gcgccaggcg 50  
tccggccgcc gtggctatgt tcgtgtccga tttccgcaa gagttctacg 100  
agggtggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctggttccag tttctgggtg gcaagaactt gaaactgcat 250  
ttcttgagca taaagaacag tttcattatt ttattctcat aaactgtgga 300  
gctaattgtag acctattgga tattcttcaa cctgatgaag acactatatt 350  
ctttgtgtgt gactcccata ggccagtcaa tgtcgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
gcctatgaag acatcttcag ggatgaagag gaggatgaag agcattcagg 500  
aaatgacagt gatgggtcag agccttctga gaagcgcaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccgagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtca gccatggtga tgtttgagct ggcttgatg ctgtccaagg 700  
acctgaatga catgctgtgg tgggccatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttggtgtcct 800  
gcagcgcac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
cactctcgt ggactgcaca cggatctcct ttgagtatga cctccgctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagtccct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgctgg aaatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



gccaccatgt ctttgatgga gagccccgag aaggatggct cagggacaga 1250  
 tcacttcac caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtaccatgg cctggaactc gccaaagaagc agctgcgagc caccagcag 1350  
 accattgccca gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln  
 1 5 10 15  
 Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu  
 20 25 30  
 Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val  
 35 40 45  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr  
 50 55 60  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile  
 65 70 75  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp  
 80 85 90  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn  
 95 100 105  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys  
 110 115 120  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg  
 125 130 135  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly  
 140 145 150  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val  
 155 160 165  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg  
 170 175 180  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly  
 185 190 195  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser  
 200 205 210  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr  
 215 220 225  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr  
 230 235 240  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

	245		250		255
Asn Glu Asp Glu	Glu Asn Thr Leu Ser	Val Asp Cys Thr Arg	Ile		
	260	265	270		
Ser Phe Glu Tyr	Asp Leu Arg Leu Val	Leu Tyr Gln His Trp	Ser		
	275	280	285		
Leu His Asp Ser	Leu Cys Asn Thr Ser	Tyr Thr Ala Ala Arg	Phe		
	290	295	300		
Lys Leu Trp Ser	Val His Gly Gln Lys	Arg Leu Gln Glu Phe	Leu		
	305	310	315		
Ala Asp Met Gly	Leu Pro Leu Lys Gln	Val Lys Gln Lys Phe	Gln		
	320	325	330		
Ala Met Asp Ile	Ser Leu Lys Glu Asn	Leu Arg Glu Met Ile	Glu		
	335	340	345		
Glu Ser Ala Asn	Lys Phe Gly Met Lys	Asp Met Arg Val Gln	Thr		
	350	355	360		
Phe Ser Ile His	Phe Gly Phe Lys His	Lys Phe Leu Ala Ser	Asp		
	365	370	375		
Val Val Phe Ala	Thr Met Ser Leu Met	Glu Ser Pro Glu Lys	Asp		
	380	385	390		
Gly Ser Gly Thr	Asp His Phe Ile Gln	Ala Leu Asp Ser Leu	Ser		
	395	400	405		
Arg Ser Asn Leu	Asp Lys Leu Tyr His	Gly Leu Glu Leu Ala	Lys		
	410	415	420		
Lys Gln Leu Arg	Ala Thr Gln Gln Thr	Ile Ala Ser Cys Leu	Cys		
	425	430	435		
Thr Asn Leu Val	Ile Ser Gln Gly Pro	Phe Leu Tyr Cys Ser	Leu		
	440	445	450		
Met Glu Gly Thr	Pro Asp Val Met Leu	Phe Ser Arg Pro Ala	Ser		
	455	460	465		
Leu Ser Leu Leu	Ser Lys His Leu Leu	Lys Ser Phe Val Cys	Ser		
	470	475	480		
Thr Lys Asn Arg	Arg Cys Lys Leu Leu	Pro Leu Val Met Ala	Ala		
	485	490	495		
Pro Leu Ser Met	Glu His Gly Thr Val	Thr Val Val Gly Ile	Pro		
	500	505	510		
Pro Glu Thr Asp	Ser Ser Asp Arg Lys	Asn Phe Phe Gly Arg	Ala		
	515	520	525		
Phe Glu Lys Ala	Ala Glu Ser Thr Ser	Ser Arg Met Leu His	Asn		
	530	535	540		
His Phe Asp Leu	Ser Val Ile Glu Leu	Lys Ala Glu Asp Arg	Ser		
	545	550	555		
Lys Phe Leu Asp	Ala Leu Ile Ser Leu	Leu Ser			

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

<400> 42  
 gtacctcagc gcgagcgcca ggcgtccggc cgccgtggct atgntcgtgt 50  
 ccgatttccg caaagagttc tacgaggtgg tccagagcca gagggtcctt 100  
 ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150  
 ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
 tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
 tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46

caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
tttctagtga accacgaag gacgatacca gaaaacaccc tcaacccaaa 100  
ggaaatagac tacagcccca attggctgac tttggctata gaaaaaagaa 150  
aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
gtaaagtacg ctccggtcac catggtgaca gccgccctgg gtcccgtctg 300  
ggcagcgcctc ctgctctttc tctgatgtg tgagatccgt atggtggagc 350  
tcacctttga cagagctgtg gccagcggct gccaacggtg ctgtgactct 400  
gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggccg 450  
ccccacgcc ctgcctgaga tcagacccta cattaatatc accatcctga 500  
agggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
agggagggtc cccaagggga gcctggccct cagggcagca agggtgacaa 600  
gggggagatg ggcagccccg gcgccccgtg ccagaagcgc ttcttcgcct 650  
tctcagtggg ccgcaagacg gccctgcaca gggcgagga cttccagacg 700  
ctgctcttcg aaagggctct tgtgaacctt gatgggtgct ttgacatggc 750  
gaccggccag tttgctgtc cctgcgtgg catctacttc ttcagcctca 800  
atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
cagaaagagg ctgtcatcct gtacgcgcag ccagcgcagc gcagcatcat 900  
gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
tgcggctctt caagcgccag cgcgagaacg ccatctacag caacgacttc 1000  
gacacctaca tcaccttcag cggccacctc atcaaggccg aggacgactg 1050  
agggcctctg ggccaccctc ccggtctggag agctcaggtg ctggtcccgt 1100  
cccctgcagg gctcagtttg cactgctgtg aagcaggaag gccagggagg 1150  
tccccgggga cctggcattc tggggagacc ctgcttctat cttggctgcc 1200  
atcatccctc ccagcctatt tctgctcctc tcttctctct tggacctatt 1250  
ttaagaagct tgctaacct aatattctag aactttcca gcctcgtagc 1300  
ccagcacttc tcaaacttgg aaatgcatgc gaatcaccg gggttcgtgt 1350  
taaatgcaga ttctgactca gcaggctga gtgggtccag gattctgtgt 1400  
ttctcatatg ttctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450

tggagcaacc aggttctag agttttctcaa tattctagta ctttctgaac 1500  
 attotggaat cctccccaca ttctagaatt ctcccaacat ttttttttct 1550  
 tgagacagag tcttgctctg ttgcccaggc tagagtgcag tggtgcaatc 1600  
 tcagttcact gcaacctctg cctcccgggt tcaagcgatt cttctgcctc 1650  
 agcctcccta gtggctggga ttacaggcgc ctgctaccat gcctggctaa 1700  
 tttttgtatt tttagtagag atgggggttc accatattgg ccaggctggg 1750  
 cttgaactcc tgacttcagg tgaccacccc gcctcggcct ctcaaaatgc 1800  
 tgggattaca ggtgtgagcc aocgtgcctg gccaatcca acattcttaa 1850  
 attctctcat cctccagggt cctcccgtgc tatgttctct ttacccttc 1900  
 cccctcttct cttgctcagg cctgcaccac tgcagccacc gttcatttat 1950  
 tcattcatta aacactgagc actcactctg tgctgggtcc cggaagggt 2000  
 gaggggggtca gacacaggcc ctgcccctgc cctcagtgc tggccagtcc 2050  
 agcccaggcg gggagagatg tgtacatagg ttttaaagca gaccagagc 2100  
 tcatgggggc ctgtgttctg ggtgttcagg tgctgctggg cctccattac 2150  
 cactgctcc ccaaggctgg tgggacgggg tcccgggtggc aggggcagg 2200  
 atctccttcc cgttctcat ccacctgcc agtgctcatc gttacagcaa 2250  
 accccagggg gccttgcca ggtcaagggt tctgtgagga gaggaccag 2300  
 gagtgtgggg gcatttgggg ggtgaagtgg ccccggaaga atggaacca 2350  
 caccatagc tctccccaca gctgatacgg catcctgcga gaagacctgc 2400  
 cctcctcact gggatccct tctgcctcc tcccagggt ctgccagggc 2450  
 cttgctcagt cccttccacc aaagtcatct gaacttccgt ttcccaggg 2500  
 cctccagctg ccctcagaca ctgatgtctg tcccagggt ctctctgcc 2550  
 ctcatgcccc tctcacggc ccagtgcctc gactctccag gctttatcaa 2600  
 ggtgctaagg cccgggtggg cagctcctcg tctcagagcc ctctccggc 2650  
 ctggtgctgc ctttacaac acctgcagga gaagggccac ggaagccca 2700  
 ggcttttagag ccctcagcag gtctggggag ctagagcaaa ggaggacct 2750  
 caggccttcc gtttcttctt ccagggtggg gtggcctggg gttcccctag 2800  
 ccttcaaac ccagggtggc tgcccttctc ccagaggga ggcggcctcc 2850  
 gccattggg gctcatgcag actctggggc tgagggtgcc cggggggtga 2900  
 tctctggtgc tcacagccga gggagccgtg gctccatggc cagatgacgg 2950  
 aaacagggtc tgaccaagtg ccaggaagac ctgtgctata aaccaccctg 3000  
 cctgatcctg cccctgcctg acccggccac gccctgccgt ccagcatgat 3050

taaagaatgc tgtctcctct tggaaaaaaaa aaaaaaaaa 3089

<210> 47

<211> 259

<212> PRT

<213> Homo sapiens

<220>

<221> Signal Peptide

<222> 1-20

<223> Signal Peptide

<220>

<221> N-glycosylation Site

<222> 72-75

<223> N-glycosylation Site

<220>

<221> Clq Domain Proteins

<222> 144-178, 78-111, 84-117

<223> Clq Domain Proteins

<400> 47

Met	Val	Thr	Ala	Ala	Leu	Gly	Pro	Val	Trp	Ala	Ala	Leu	Leu	Leu	
1				5					10					15	
Phe	Leu	Leu	Met	Cys	Glu	Ile	Arg	Met	Val	Glu	Leu	Thr	Phe	Asp	
			20						25					30	
Arg	Ala	Val	Ala	Ser	Gly	Cys	Gln	Arg	Cys	Cys	Asp	Ser	Glu	Asp	
				35					40					45	
Pro	Leu	Asp	Pro	Ala	His	Val	Ser	Ser	Ala	Ser	Ser	Ser	Gly	Arg	
				50					55					60	
Pro	His	Ala	Leu	Pro	Glu	Ile	Arg	Pro	Tyr	Ile	Asn	Ile	Thr	Ile	
				65					70					75	
Leu	Lys	Gly	Asp	Lys	Gly	Asp	Pro	Gly	Pro	Met	Gly	Leu	Pro	Gly	
				80					85					90	
Tyr	Met	Gly	Arg	Glu	Gly	Pro	Gln	Gly	Glu	Pro	Gly	Pro	Gln	Gly	
				95					100					105	
Ser	Lys	Gly	Asp	Lys	Gly	Glu	Met	Gly	Ser	Pro	Gly	Ala	Pro	Cys	
				110					115					120	
Gln	Lys	Arg	Phe	Phe	Ala	Phe	Ser	Val	Gly	Arg	Lys	Thr	Ala	Leu	
				125					130					135	
His	Ser	Gly	Glu	Asp	Phe	Gln	Thr	Leu	Leu	Phe	Glu	Arg	Val	Phe	
				140					145					150	
Val	Asn	Leu	Asp	Gly	Cys	Phe	Asp	Met	Ala	Thr	Gly	Gln	Phe	Ala	
				155					160					165	
Ala	Pro	Leu	Arg	Gly	Ile	Tyr	Phe	Phe	Ser	Leu	Asn	Val	His	Ser	
				170					175					180	
Trp	Asn	Tyr	Lys	Glu	Thr	Tyr	Val	His	Ile	Met	His	Asn	Gln	Lys	
				185					190					195	
Glu	Ala	Val	Ile	Leu	Tyr	Ala	Gln	Pro	Ser	Glu	Arg	Ser	Ile	Met	

	200		205		210
Gln Ser Gln Ser Val Met Leu Asp Leu		Ala Tyr Gly Asp Arg Val			
215		220			225
Trp Val Arg Leu Phe Lys Arg Gln Arg		Glu Asn Ala Ile Tyr Ser			
230		235			240
Asn Asp Phe Asp Thr Tyr Ile Thr Phe		Ser Gly His Leu Ile Lys			
245		250			255
Ala Glu Asp Asp					

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
 ccagacgctg ctcttcgaaa gggtc 25

<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
 ctacttcttc agcctcaatg tgcacagctg gaattacaag gagacgtacg 50

<210> 51  
 <211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
 actcgaacgc agttgcttcg ggacccagga cccctcggg cccgacccgc 50  
 caggaaagac tgaggccgcg gctgccccg cccggctccc tgcgccgccg 100  
 ccgcctccccg ggacagaaga tgtgtccag ggtccctctg ctgctgccgc 150  
 tgctcctgct actggccctg gggcctgggg tgcagggctg cccatccggc 200  
 tgccagtgca gccagccaca gacagtcttc tgcactgcc gccaggggac 250

cacggtgccc cgagacgtgc cacccgacac ggtggggctg tacgtctttg 300  
 agaacggcat caccatgctc gacgcaggca gctttgccgg cctgccgggc 350  
 ctgcagctcc tggacctgtc acagaaccag atcgccagcc tgcccagcgg 400  
 ggtcttccag ccactcgcca acctcagcaa cctggacctg acggccaaca 450  
 ggctgcatga aatcaccaat gagaccttcc gtggcctgcg gcgcctcgag 500  
 cgctctacc tgggcaagaa ccgcattccg caccatccagc ctgggtgcctt 550  
 cgacacgctc gaccgcctcc tggagctcaa gctgcaggac aacgagctgc 600  
 gggcactgcc cccgctgcgc ctgccccgcc tgctgctgct ggacctcagc 650  
 cacaacagcc tcctggccct ggagcccggc atcctggaca ctgccaacgt 700  
 ggaggcgctg cggctggctg gtctggggct gcagcagctg gacgaggggc 750  
 tcttcagccg cttgcgcaac ctccacgacc tggatgtgtc cgacaaccag 800  
 ctggagcgag tgccacctgt gatccgaggc ctccggggcc tgacgcgcct 850  
 gcggctggcc ggcaacaccc gcattgcccc gctgcggccc gaggacctgg 900  
 ccggcctggc tgccctgcag gagctggatg tgagcaacct aagcctgcag 950  
 gccctgcctg gcgacctctc gggcctcttc ccccgccctg ggctgctggc 1000  
 agctgcccgc aacccttca actgcgtgtg cccctgagc tggtttggcc 1050  
 cctgggtgcg cgagagccac gtcacactgg ccagccctga ggagacgcgc 1100  
 tgccacttcc cgcccaagaa cgctggccgg ctgctcctgg agcttgacta 1150  
 cgccgacttt ggctgcccag ccaccaccac cacagccaca gtgcccacca 1200  
 cgaggcccgt ggtgcgggag cccacagcct tgtcttctag cttggctcct 1250  
 acctggctta gcccacagc gccggccact gagggcccca gcccgccctc 1300  
 cactgcccga ccgactgtag ggcctgtccc ccagccccag gactgcccac 1350  
 cgtccacctg cctcaatggg ggcacatgcc acctggggac acggcaccac 1400  
 ctggcgtgct tgtgccccga aggcttcacg ggctgtact gtgagagcca 1450  
 gatggggcag gggacacggc ccagccctac accagtcacg ccgaggccac 1500  
 cacggtccct gaccctgggc atcgagccgg tgagcccccac ctccctgcgc 1550  
 gtggggctgc agcgctacct ccagggggagc tccgtgcagc tcaggagcct 1600  
 ccgtctcacc tatcgcaacc tatcggggcc tgataagcgg ctgggtgacgc 1650  
 tgcgactgcc tgctcgctc gctgagtaca cggtcaccca gctgcggccc 1700  
 aacgccactt actccgtctg tgtcatgcct ttggggcccg ggccgggtgcc 1750  
 ggagggcgag gaggcctgcg gggaggccca tacaccccca gccgtccact 1800  
 ccaaccacgc ccagtcacc caggcccgcg agggcaacct gccgtcctc 1850





				95					100					105	
Asp	Leu	Thr	Ala	Asn 110	Arg	Leu	His	Glu	Ile 115	Thr	Asn	Glu	Thr	Phe 120	
Arg	Gly	Leu	Arg	Arg 125	Leu	Glu	Arg	Leu	Tyr 130	Leu	Gly	Lys	Asn	Arg 135	
Ile	Arg	His	Ile	Gln 140	Pro	Gly	Ala	Phe	Asp 145	Thr	Leu	Asp	Arg	Leu 150	
Leu	Glu	Leu	Lys	Leu 155	Gln	Asp	Asn	Glu	Leu 160	Arg	Ala	Leu	Pro	Pro 165	
Leu	Arg	Leu	Pro	Arg 170	Leu	Leu	Leu	Leu	Asp 175	Leu	Ser	His	Asn	Ser 180	
Leu	Leu	Ala	Leu	Glu 185	Pro	Gly	Ile	Leu	Asp 190	Thr	Ala	Asn	Val	Glu 195	
Ala	Leu	Arg	Leu	Ala 200	Gly	Leu	Gly	Leu	Gln 205	Gln	Leu	Asp	Glu	Gly 210	
Leu	Phe	Ser	Arg	Leu 215	Arg	Asn	Leu	His	Asp 220	Leu	Asp	Val	Ser	Asp 225	
Asn	Gln	Leu	Glu	Arg 230	Val	Pro	Pro	Val	Ile 235	Arg	Gly	Leu	Arg	Gly 240	
Leu	Thr	Arg	Leu	Arg 245	Leu	Ala	Gly	Asn	Thr 250	Arg	Ile	Ala	Gln	Leu 255	
Arg	Pro	Glu	Asp	Leu 260	Ala	Gly	Leu	Ala	Ala 265	Leu	Gln	Glu	Leu	Asp 270	
Val	Ser	Asn	Leu	Ser 275	Leu	Gln	Ala	Leu	Pro 280	Gly	Asp	Leu	Ser	Gly 285	
Leu	Phe	Pro	Arg	Leu 290	Arg	Leu	Leu	Ala	Ala 295	Ala	Arg	Asn	Pro	Phe 300	
Asn	Cys	Val	Cys	Pro 305	Leu	Ser	Trp	Phe	Gly 310	Pro	Trp	Val	Arg	Glu 315	
Ser	His	Val	Thr	Leu 320	Ala	Ser	Pro	Glu	Glu 325	Thr	Arg	Cys	His	Phe 330	
Pro	Pro	Lys	Asn	Ala 335	Gly	Arg	Leu	Leu	Leu 340	Glu	Leu	Asp	Tyr	Ala 345	
Asp	Phe	Gly	Cys	Pro 350	Ala	Thr	Thr	Thr	Thr 355	Ala	Thr	Val	Pro	Thr 360	
Thr	Arg	Pro	Val	Val 365	Arg	Glu	Pro	Thr	Ala 370	Leu	Ser	Ser	Ser	Leu 375	
Ala	Pro	Thr	Trp	Leu 380	Ser	Pro	Thr	Ala	Pro 385	Ala	Thr	Glu	Ala	Pro 390	
Ser	Pro	Pro	Ser	Thr 395	Ala	Pro	Pro	Thr	Val 400	Gly	Pro	Val	Pro	Gln 405	
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys	

				410					415					420
His	Leu	Gly	Thr	Arg 425	His	His	Leu	Ala	Cys 430	Leu	Cys	Pro	Glu	Gly 435
Phe	Thr	Gly	Leu	Tyr 440	Cys	Glu	Ser	Gln	Met 445	Gly	Gln	Gly	Thr	Arg 450
Pro	Ser	Pro	Thr	Pro 455	Val	Thr	Pro	Arg	Pro 460	Pro	Arg	Ser	Leu	Thr 465
Leu	Gly	Ile	Glu	Pro 470	Val	Ser	Pro	Thr	Ser 475	Leu	Arg	Val	Gly	Leu 480
Gln	Arg	Tyr	Leu	Gln 485	Gly	Ser	Ser	Val	Gln 490	Leu	Arg	Ser	Leu	Arg 495
Leu	Thr	Tyr	Arg	Asn 500	Leu	Ser	Gly	Pro	Asp 505	Lys	Arg	Leu	Val	Thr 510
Leu	Arg	Leu	Pro	Ala 515	Ser	Leu	Ala	Glu	Tyr 520	Thr	Val	Thr	Gln	Leu 525
Arg	Pro	Asn	Ala	Thr 530	Tyr	Ser	Val	Cys	Val 535	Met	Pro	Leu	Gly	Pro 540
Gly	Arg	Val	Pro	Glu 545	Gly	Glu	Glu	Ala	Cys 550	Gly	Glu	Ala	His	Thr 555
Pro	Pro	Ala	Val	His 560	Ser	Asn	His	Ala	Pro 565	Val	Thr	Gln	Ala	Arg 570
Glu	Gly	Asn	Leu	Pro 575	Leu	Leu	Ile	Ala	Pro 580	Ala	Leu	Ala	Ala	Val 585
Leu	Leu	Ala	Ala	Leu 590	Ala	Ala	Val	Gly	Ala 595	Ala	Tyr	Cys	Val	Arg 600
Arg	Gly	Arg	Ala	Met 605	Ala	Ala	Ala	Ala	Gln 610	Asp	Lys	Gly	Gln	Val 615
Gly	Pro	Gly	Ala	Gly 620	Pro	Leu	Glu	Leu	Glu 625	Gly	Val	Lys	Val	Pro 630
Leu	Glu	Pro	Gly	Pro 635	Lys	Ala	Thr	Glu	Gly 640	Gly	Gly	Glu	Ala	Leu 645
Pro	Ser	Gly	Ser	Glu 650	Cys	Glu	Val	Pro	Leu 655	Met	Gly	Phe	Pro	Gly 660
Pro	Gly	Leu	Gln	Ser 665	Pro	Leu	His	Ala	Lys 670	Pro	Tyr	Ile		

```
<210> 53
<211> 23
<212> DNA
<213> Artificial Sequence
```

<210> 54  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 54  
ttgctcacat ccagctcctg cagg 24

<210> 55  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 55  
tggatgttgt ccagacaacc agctggagct gtatccgagg c 41

<210> 56  
<211> 3462  
<212> DNA  
<213> Homo sapiens

<400> 56  
gaatcatcca cgcacctgca gctctgctga gagagtgcaa gccgtggggg 50  
ttttgagctc atcttcatca ttcatatgag gaaataagtg gtaaaatcct 100  
tggaaataca atgagactca tcagaaacat ttacatatatt tgtagtattg 150  
ttatgacagc agaggggtgat gctccagagc tgccagaaga aagggaactg 200  
atgaccaact gctccaacat gtctctaaga aagggttcccg cagacttgac 250  
cccagccaca acgacactgg atttatccta taacctcctt tttcaactcc 300  
agagttcaga ttttcattct gtctccaaac tgagagtttt gattctatgc 350  
cataacagaa ttcaacagct ggatctcaaa acctttgaat tcaacaagga 400  
gttaagatat ttagatttgt ctaataacag actgaagagt gtaacttggg 450  
atttactggc aggtctcagg tatttagatc tttcttttaa tgactttgac 500  
accatgccta tctgtgagga agctggcaac atgtcacacc tggaaatcct 550  
aggtttgagt ggggcaaaaa tacaaaaatc agatttccag aaaattgctc 600  
atctgcatct aaatactgtc ttcttaggat tcagaaactct tcctcattat 650  
gaagaaggta gcctgcccat cttaaacaca acaaaaactgc acattgtttt 700  
accaatggac acaaatttct gggttctttt gcgtgatgga atcaagactt 750  
caaaaatatt agaaatgaca aatatagatg gcaaaaagcca atttgtaagt 800  
tatgaaatgc aacgaaatct tagtttagaa aatgctaaga catcggttct 850  
attgcttaat aaagttgatt tactctggga cgaccttttc cttatcttac 900

aatttggttg gcatacatca gtggaacact ttcagatccg aaatgtgact 950  
tttggtggta aggcttatct tgaccacaat tcatttgact actcaaatac 1000  
tgtaatgaga actataaaat tggagcatgt acatttcaga gtgttttaca 1050  
ttcaacagga taaaatctat ttgcttttga ccaaaatgga catagaaaac 1100  
ctgacaatat caaatgcaca aatgccacac atgcttttcc cgaattatcc 1150  
taogaaaattc caatatttaa attttgccaa taatatctta acagacgagt 1200  
tgttttaaag aactatccaa ctgcctcact tgaaaactct cattttgaat 1250  
ggcaataaac tggagacact ttcttttagta agttgctttg ctaacaacac 1300  
acccttggaa cacttggatc tgagtcaaaa tctattacaa cataaaaaatg 1350  
atgaaaattg ctcatggcca gaaactgtgg tcaatatgaa tctgtcatac 1400  
aataaattgt ctgattctgt cttcaggtgc ttgcccaaaa gtattcaaat 1450  
acttgacctt aataataacc aaatccaaac tgtacctaaa gagactattc 1500  
atctgatggc cttacgagaa ctaaattatt catttaattt tctaactgat 1550  
ctccctggat gcagtcattt cagtagactt tcagttctga acattgaaat 1600  
gaacttcatt ctacgcccatt ctctggattt tgttcagagc tgccaggaag 1650  
ttaaaactct aaatgoggga agaaatccat tccggtgtac ctgtgaatta 1700  
aaaaatttca ttcagcttga aacatattca gaggtcatga tggttggatg 1750  
gtcagattca tacacctgtg aatacccttt aaacctaagg ggaactaggt 1800  
taaaagacgt tcatctccac gaattatctt gcaacacagc tctgttgatt 1850  
gtcaccattg tggttattat gctagttctg gggttggctg tggccttctg 1900  
ctgtctccac tttgatctgc cctggtatct caggatgcta ggtcaatgca 1950  
cacaaacatg gcacagggtt agggaaaaca cccaagaaca actcaagaga 2000  
aatgtccgat tccacgcatt tatttcatac agtgaacatg attctctgtg 2050  
ggtgaagaat gaattgatcc coaatctaga gaaggaagat ggttctatct 2100  
tgatttgcct ttatgaaagc tactttgacc ctggcaaaag cattagttaa 2150  
aatattgtaa gcttcattga gaaaagctat aagtcctatc ttgttttgc 2200  
tcccaacttt gtccagaatg agtgggtgcca ttatgaattc tactttgccc 2250  
accacaatct ctcccatgaa aattctgatc atataattct tatcttactg 2300  
gaaccattc cattctattg cattcccacc aggtatcata aactgaaagc 2350  
tctcctggaa aaaaaagcat acttggaatg gcccaaggat aggcgtaaat 2400  
gtgggctttt ctgggcaaac ctccagagctg ctattaatgt taatgtatta 2450  
gccaccagag aaatgtatga actgcagaca ttcacagagt taaatgaaga 2500

gtctogaggt tctacaatct ctctgatgag aacagattgt ctataaaatc 2550  
ccacagtcct tgggaagttg gggaccacat acactgttgg gatgtacatt 2600  
gataacaacct ttatgatggc aatttgacaa tattttattaa aataaaaaaat 2650  
ggttattccc ttcatatcag tttctagaag gatttctaag aatgtatcct 2700  
atagaaacac cttcacaagt ttataagggc ttatggaaaa aggtgttcat 2750  
cccaggattg tttataatca tgaaaaatgt ggccagggtgc agtgggtcac 2800  
tcttgtaatc ccagcactat gggaggccaa ggtgggtgac ccacgaggtc 2850  
aagagatgga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 2900  
aaatacaaaa attagctggg cgtgatgggtg cacgcctgta gtcccagcta 2950  
cttgggaggc tgaggcagga gaatcgcttg aaccggggag gtggcagttg 3000  
cagtgaagctg agatogagcc actgcactcc agcctggtga cagagcgaga 3050  
ctccatctca aaaaaaagaa aaaaaaaaaa gaaaaaaatg gaaaacatcc 3100  
tcatggccac aaaataaggt ctaattcaat aaattatagt acattaatgt 3150  
aatataatat tacatgocac taaaaagaat aaggtagctg tatatttcct 3200  
ggatatgaaa aaacatatta atatgttata aactattagg ttggtgcaaa 3250  
actaattgtg gtttttgcca ttgaaatggc attgaaataa aagtgtaaag 3300  
aaatctatac cagatgtagt aacagtgggtt tgggtctggg aggttggatt 3350  
acagggagca tttgatttct atgttggtgta tttctataat gtttgaattg 3400  
tttagaatga atctgtatct cttttataag tagaaaaaaa ataaagatag 3450  
tttttacagc ct 3462

<210> 57  
<211> 811  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Arg Leu Ile Arg Asn Ile Tyr Ile Phe Cys Ser Ile Val Met  
1 5 10 15  
Thr Ala Glu Gly Asp Ala Pro Glu Leu Pro Glu Glu Arg Glu Leu  
20 25 30  
Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp  
35 40 45  
Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
50 55 60  
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
65 70 75  
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
80 85 90

Thr Phe Glu Phe Asn Lys Glu Leu Arg Tyr Leu Asp Leu Ser Asn	95	100	105
Asn Arg Leu Lys Ser Val Thr Trp Tyr Leu Leu Ala Gly Leu Arg	110	115	120
Tyr Leu Asp Leu Ser Phe Asn Asp Phe Asp Thr Met Pro Ile Cys	125	130	135
Glu Glu Ala Gly Asn Met Ser His Leu Glu Ile Leu Gly Leu Ser	140	145	150
Gly Ala Lys Ile Gln Lys Ser Asp Phe Gln Lys Ile Ala His Leu	155	160	165
His Leu Asn Thr Val Phe Leu Gly Phe Arg Thr Leu Pro His Tyr	170	175	180
Glu Glu Gly Ser Leu Pro Ile Leu Asn Thr Thr Lys Leu His Ile	185	190	195
Val Leu Pro Met Asp Thr Asn Phe Trp Val Leu Leu Arg Asp Gly	200	205	210
Ile Lys Thr Ser Lys Ile Leu Glu Met Thr Asn Ile Asp Gly Lys	215	220	225
Ser Gln Phe Val Ser Tyr Glu Met Gln Arg Asn Leu Ser Leu Glu	230	235	240
Asn Ala Lys Thr Ser Val Leu Leu Leu Asn Lys Val Asp Leu Leu	245	250	255
Trp Asp Asp Leu Phe Leu Ile Leu Gln Phe Val Trp His Thr Ser	260	265	270
Val Glu His Phe Gln Ile Arg Asn Val Thr Phe Gly Gly Lys Ala	275	280	285
Tyr Leu Asp His Asn Ser Phe Asp Tyr Ser Asn Thr Val Met Arg	290	295	300
Thr Ile Lys Leu Glu His Val His Phe Arg Val Phe Tyr Ile Gln	305	310	315
Gln Asp Lys Ile Tyr Leu Leu Leu Thr Lys Met Asp Ile Glu Asn	320	325	330
Leu Thr Ile Ser Asn Ala Gln Met Pro His Met Leu Phe Pro Asn	335	340	345
Tyr Pro Thr Lys Phe Gln Tyr Leu Asn Phe Ala Asn Asn Ile Leu	350	355	360
Thr Asp Glu Leu Phe Lys Arg Thr Ile Gln Leu Pro His Leu Lys	365	370	375
Thr Leu Ile Leu Asn Gly Asn Lys Leu Glu Thr Leu Ser Leu Val	380	385	390
Ser Cys Phe Ala Asn Asn Thr Pro Leu Glu His Leu Asp Leu Ser	395	400	405





Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe
				725					730					735
Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu
				740					745					750
Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly
				755					760					765
Leu	Phe	Trp	Ala	Asn	Leu	Arg	Ala	Ala	Ile	Asn	Val	Asn	Val	Leu
				770					775					780
Ala	Thr	Arg	Glu	Met	Tyr	Glu	Leu	Gln	Thr	Phe	Thr	Glu	Leu	Asn
				785					790					795
Glu	Glu	Ser	Arg	Gly	Ser	Thr	Ile	Ser	Leu	Met	Arg	Thr	Asp	Cys
				800					805					810

Leu

<210> 58  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 58  
 tcccaccagg tatcataaac tgaa 24

<210> 59  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 59  
 ttatagacaa tctgttctca tcagaga 27

<210> 60  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 60  
 aaaaagcata cttggaatgg cccaaggata ggtgtaaatg 40

<210> 61  
 <211> 3772  
 <212> DNA  
 <213> Homo sapiens

<400> 61  
 gggggctttc ttgggcttgg ctgcttgaa cacctgcctc caaggaccgg 50  
 cctcggaggg gtcgccggga aaggaggga agaaggaagg gcggggccgg 100

ccccccctgcg cccgccccgc gcctctgcgc gcccctgtcc gccccggccc 150  
 agcccagccc agccccgcgg gccggtcaca cgcgagcca gccggccgcc 200  
 tcccgcgccc aagcgcgcgc ctctgctgtg ccctgcgccc ttgccccgcg 250  
 ccagcttctg cgcgcgcagc ccgcccggcg cccccggtga ccgtgaccct 300  
 gccctggggcg cggggcggag caggcatgtc ccgcccgggg accgctaccc 350  
 cagcgctggc cctgggtgctc ctggcagtga ccctggccgg ggtcggagcc 400  
 cagggcgcag ccctcgagga ccctgattat tacgggcagg agatctggag 450  
 ccgggagccc tactacgcgc gcccgagacc cgagctcgag accttctctc 500  
 cgccgctgcc tgcggggccc ggggaggagt gggagcggcg cccgcaggag 550  
 cccaggccgc ccaagagggc caccaagccc aagaaagctc ccaagaggga 600  
 gaagtcggct ccggagccgc ctccaccagg taaacacagc acaaaaaag 650  
 ttatgagaac caagagctct gagaaggctg ccaacgatga tcacagtgtc 700  
 cgtgtggccc gtgaagatgt cagagagagt tgcccacctc ttggtctgga 750  
 aaccttaaaa atcacagact tccagctcca tgcctccacg gtgaagcgtc 800  
 atggcctggg ggcacatcga gggagactca acatccaggc gggcattaat 850  
 gaaaatgatt tttatgacgg agcgtggtgc gcgggaagaa atgacctcca 900  
 gcagtggatt gaagtggatg ctgggcgcct gaccagattc actggtgtca 950  
 tcaactcaagg gaggaactcc ctctggctga gtgactgggt gacatcctat 1000  
 aaggatcatg tgagcaatga cagccacacg tgggtcactg ttaagaatgg 1050  
 atctggagac atgatatttg agggaaacag tgagaaggag atccctgttc 1100  
 tcaatgagct acccgtcccc atggtggccc gctacatccg cataaaccct 1150  
 cagtcctggg ttgataatgg gagcatctgc atgagaatgg agatcctggg 1200  
 ctgcccactg ccagatccta ataattatta tcaccgccgg aacgagatga 1250  
 ccaccactga tgacctggat ttttaagcacc acaattataa ggaaatgcgc 1300  
 cagttgatga aagttgtgaa tgaaatgtgt cccaatatca ccagaattta 1350  
 caacattgga aaaagccacc agggcctgaa gctgtatgct gtggagatct 1400  
 cagatcaccg tggggagcat gaagtcgggtg agcccgagtt ccactacatc 1450  
 gcggggggccc acggcaatga ggtgctgggc cgggagctgc tgctgctgct 1500  
 ggtgcagttc gtgtgtcagg agtacttggc ccggaatgcg cgcacgtccc 1550  
 acctgggtga ggagacgcgg attcacgtcc tcccctccct caaccccgat 1600  
 ggctacgaga aggcctacga agggggctcg gagctgggag gctggtccct 1650  
 gggacgctgg acccacgatg gaattgacat caacaacaac tttcctgatt 1700

[illegible]

gtccctgctg atccagtagc cctggagggtt ccccaggtag ggagagccag 3350  
 aggtgccagc cttcctgaag ggccagaaaa tttagcctgg atctcctctt 3400  
 ttacctgcta ggactggaaa gagccagaag tgggggtggcc tgaagccctc 3450  
 tctctgcttg aggtattgcc cctgtgtgga attgagtgtc catggggttg 3500  
 cctcatatca gcctgggagt tatttttgat atgtagaatg ccagatcttc 3550  
 cagattaggc taaatgtaat gaaaacctct taggattatc tgtggagcat 3600  
 cagtttggga agaattattg aattatcttg caagaaaaaa gtatgtctca 3650  
 ctttttgta atgttgctgc ctcatcgacc tgggaaaaat gaaaaaaaaa 3700  
 aataaagcaa atggtgaagac ccttaaaaaa aaaaaaaaaa aaaaaaaaaa 3750  
 aaaaaaaaaa aaaaaaaaaa aa 3772

<210> 62  
 <211> 756  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
 Met Ser Arg Pro Gly Thr Ala Thr Pro Ala Leu Ala Leu Val Leu  
     1                    5                    10                    15  
 Leu Ala Val Thr Leu Ala Gly Val Gly Ala Gln Gly Ala Ala Leu  
                     20                    25                    30  
 Glu Asp Pro Asp Tyr Tyr Gly Gln Glu Ile Trp Ser Arg Glu Pro  
                     35                    40                    45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
                     50                    55                    60  
 Leu Pro Ala Gly Pro Gly Glu Glu Trp Glu Arg Arg Pro Gln Glu  
                     65                    70                    75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
                     80                    85                    90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Pro Gly Lys His Ser  
                     95                    100                    105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
                     110                    115                    120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
                     125                    130                    135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
                     140                    145                    150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
                     155                    160                    165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
                     170                    175                    180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile



500										505					510				
Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val	Val	Ala	Tyr					
				515					520					525					
Pro	Tyr	Asp	Leu	Val	Arg	Ser	Pro	Trp	Lys	Thr	Gln	Glu	His	Thr					
				530					535					540					
Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser	Tyr					
				545					550					555					
Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys					
				560					565					570					
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala					
				575					580					585					
Ser	Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu					
				590					595					600					
His	Thr	Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys					
				605					610					615					
Tyr	Pro	His	Glu	Ser	Gln	Leu	Pro	Glu	Glu	Trp	Glu	Asn	Asn	Arg					
				620					625					630					
Glu	Ser	Leu	Ile	Val	Phe	Met	Glu	Gln	Val	His	Arg	Gly	Ile	Lys					
				635					640					645					
Gly	Leu	Val	Arg	Asp	Ser	His	Gly	Lys	Gly	Ile	Pro	Asn	Ala	Ile					
				650					655					660					
Ile	Ser	Val	Glu	Gly	Ile	Asn	His	Asp	Ile	Arg	Thr	Ala	Asn	Asp					
				665					670					675					
Gly	Asp	Tyr	Trp	Arg	Leu	Leu	Asn	Pro	Gly	Glu	Tyr	Val	Val	Thr					
				680					685					690					
Ala	Lys	Ala	Glu	Gly	Phe	Thr	Ala	Ser	Thr	Lys	Asn	Cys	Met	Val					
				695					700					705					
Gly	Tyr	Asp	Met	Gly	Ala	Thr	Arg	Cys	Asp	Phe	Thr	Leu	Ser	Lys					
				710					715					720					
Thr	Asn	Met	Ala	Arg	Ile	Arg	Glu	Ile	Met	Glu	Lys	Phe	Gly	Lys					
				725					730					735					
Gln	Pro	Val	Ser	Leu	Pro	Ala	Arg	Arg	Leu	Lys	Leu	Arg	Gly	Arg					
				740					745					750					
Lys	Arg	Arg	Gln	Arg	Gly														
				755															

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gtttctcaatg agctacccgt cccc 24

<210> 64  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
cgcgatgtag tggaactcgg gctc 24

<210> 65  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 65  
atccgcataa accctcagtc ctggtttgat aatgggagca tctgcatgag 50

<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
ctaagaggac aagatgaggc ccggcctctc atttctccta gcccttctgt 50  
tcttccttgg ccaagctgca ggggatttgg gggatgtggg acctccaatt 100  
cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150  
cagctccagc tccaggtcgg gctccagctc cagccgcagc ttaggcagcg 200  
gaggttctgt gtcccagttg ttttccaatt tcaccggctc cgtggatgac 250  
cgtgggacct gccagtgtc tgtttcctg ccagacacca cctttcccgt 300  
ggacagagtg gaacgcttgg aattcacagc tcatgttctt tctcagaagt 350  
ttgagaaaga actttctaaa gtgaggaat atgtccaatt aattagtgtg 400  
tatgaaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tottacctg aactggactt cgagctgac aaggtagaag 500  
tgaaggagat ggaaaaactg gtcatacagc tgaaggagag ttttggtgga 550  
agctcagaaa ttgttgacca gctggaggtg gagataagaa atatgactct 600  
cttggtagag aagcttgaga cactagacaa aaacaatgtc cttgccattc 650  
gccgagaaat cgtggctctg aagaccaagc tgaaagagtg tgaggcctct 700  
aaagatcaaa acaccctgt cgtccaccct cctcccactc cagggagctg 750  
tggtcatggt ggtgtggtga acatcagcaa accgtctgtg gttcagctca 800  
actggagagg gttttcttat ctatatggtg cttggggtag ggattactct 850  
ccccagcatc caaacaagg actgtattgg gtggcgccat tgaatacaga 900





aagaccttgg agcatatgtg caacttatga gtgtatcagt tgttgcattg 2550  
aatttttggc tttgtttaag cctggaactt gtaagaaaat gaaaatttaa 2600  
tttttttttc taggacgagc tatagaaaag ctattgagag tatctagtta 2650  
atcagtgcag tagttggaaa ccttgctggt gtatgtgatg tgcttctgtg 2700  
cttttgaatg actttatcat ctagtctttg tctatttttc ctttgatgtt 2750  
caagtcctag tctataggat tggcagttta aatgctttac tccccctttt 2800  
aaaataaatg attaaaatgt gctttgaaaa aaaaaaaaaa aaaaaaaaaa 2850  
aaaa 2854

<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
Met Arg Pro Gly Leu Ser Phe Leu Leu Ala Leu Leu Phe Phe Leu  
1 5 10 15  
Gly Gln Ala Ala Gly Asp Leu Gly Asp Val Gly Pro Pro Ile Pro  
20 25 30  
Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala	Ile	Arg	Arg	Glu 215	Ile	Val	Ala	Leu	Lys 220	Thr	Lys	Leu	Lys	Glu 225
Cys	Glu	Ala	Ser	Lys 230	Asp	Gln	Asn	Thr	Pro 235	Val	Val	His	Pro	Pro 240
Pro	Thr	Pro	Gly	Ser 245	Cys	Gly	His	Gly	Gly 250	Val	Val	Asn	Ile	Ser 255
Lys	Pro	Ser	Val	Val 260	Gln	Leu	Asn	Trp	Arg 265	Gly	Phe	Ser	Tyr	Leu 270
Tyr	Gly	Ala	Trp	Gly 275	Arg	Asp	Tyr	Ser	Pro 280	Gln	His	Pro	Asn	Lys 285
Gly	Leu	Tyr	Trp	Val 290	Ala	Pro	Leu	Asn	Thr 295	Asp	Gly	Arg	Leu	Leu 300
Glu	Tyr	Tyr	Arg	Leu 305	Tyr	Asn	Thr	Leu	Asp 310	Asp	Leu	Leu	Leu	Tyr 315
Ile	Asn	Ala	Arg	Glu 320	Leu	Arg	Ile	Thr	Tyr 325	Gly	Gln	Gly	Ser	Gly 330
Thr	Ala	Val	Tyr	Asn 335	Asn	Asn	Met	Tyr	Val 340	Asn	Met	Tyr	Asn	Thr 345
Gly	Asn	Ile	Ala	Arg 350	Val	Asn	Leu	Thr	Thr 355	Asn	Thr	Ile	Ala	Val 360
Thr	Gln	Thr	Leu	Pro 365	Asn	Ala	Ala	Tyr	Asn 370	Asn	Arg	Phe	Ser	Tyr 375
Ala	Asn	Val	Ala	Trp 380	Gln	Asp	Ile	Asp	Phe 385	Ala	Val	Asp	Glu	Asn 390
Gly	Leu	Trp	Val	Ile 395	Tyr	Ser	Thr	Glu	Ala 400	Ser	Thr	Gly	Asn	Met 405
Val	Ile	Ser	Lys	Leu 410	Asn	Asp	Thr	Thr	Leu 415	Gln	Val	Leu	Asn	Thr 420
Trp	Tyr	Thr	Lys	Gln 425	Tyr	Lys	Pro	Ser	Ala 430	Ser	Asn	Ala	Phe	Met 435
Val	Cys	Gly	Val	Leu 440	Tyr	Ala	Thr	Arg	Thr 445	Met	Asn	Thr	Arg	Thr 450
Glu	Glu	Ile	Phe	Tyr 455	Tyr	Tyr	Asp	Thr	Asn 460	Thr	Gly	Lys	Glu	Gly 465
Lys	Leu	Asp	Ile	Val 470	Met	His	Lys	Met	Gln 475	Glu	Lys	Val	Gln	Ser 480
Ile	Asn	Tyr	Asn	Pro 485	Phe	Asp	Gln	Lys	Leu 490	Tyr	Val	Tyr	Asn	Asp 495
Gly	Tyr	Leu	Leu	Asn 500	Tyr	Asp	Leu	Ser	Val 505	Leu	Gln	Lys	Pro	Gln 510

<210>	68
<211>	410
<212>	DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

gctctgaaga ccaagctgaa agagtgtgag gcctctaaag atcaaacacc 50  
cctgtcgtcc accctcctcc cactccaggg agctgtgggc atgggtggtgt 100  
ggtgaacatc agcaaaccgt ctgtgggttca gctcaactgg agaggggtttt 150  
cttatctata tgggtgcttgg ggtagggatt actctcccca gcatccaaac 200  
aaagggnatgt attgggnggc gccattgaat acagatggga gactgttgga 250  
gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300  
ctcgagagtt gcggatcacc tatggccaag gtagtggtac agcagtttac 350  
aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400  
taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtgggc atgggtggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctacctggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

[illegible]

72

ttctccagtg ttctggcatg aattagattt tactgcttgt cattttgtta 1600  
 ttttcttacc aagtgcattg atatgtgaag tagaatgaat tgcagaggaa 1650  
 agttttatga atatggtgat gagttagtaa aagtggccat tattgggctt 1700  
 attctctgct ctatagttgt gaaatgaaga gtaaaaacaa atttgtttga 1750  
 ctattttaaa attatattag accttaagct gtttttagcaa gcattaaagc 1800  
 aaatgtatgg ctgccttttg aaatatattga tgtgttgcct ggcaggatac 1850  
 tgcaaagaac atggttttatt ttaaaattta taaacaagtc acttaaagtc 1900  
 cagttgtctg aaaaatctta taaggtttta cccttgatac ggaatttaca 1950  
 caggtaggga gtgttttagtg gacaatagtg taggttatgg atggaggtgt 2000  
 cggtaactaa ttgaataacg agtaaataat cttacttggg tagagatggc 2050  
 ctttgccaac aaagtgaact gttttggttg ttttaaactc atgaagtatg 2100  
 ggttcagtg aaatgttttg aactctgaag gatttagaca aggttttgaa 2150  
 aaggataatc atgggttaga aggaagtgtt ttgaaagtca ctttgaaagt 2200  
 tagttttggg cccagcacgg tagctcacc ttggtaatcc cagcactttg 2250  
 ggagcttaag tgggtagatt acttgagccc aggaattcag accagcttgg 2300  
 cacatggtga acctgttcta taaaaataat ctggctttga gcatatgcct 2350  
 gtggtccagc actgagaggc tagtgaagat tgctgagccc agagccaaag 2400  
 gttgcagtga gcaagtcacg tcaactgcact ctagctggca cagagtaagc 2450  
 caaaaaaata tatatatatt gaaatcaagg aggcaaaatt ttgacaggga 2500  
 aggaagtaac tgcaaaacca ctaggcttta gtaggtactt atataaaatc 2550  
 tagtccagtt ctctcattta aaaaaatgaa gacactgaaa tacagactta 2600  
 aatagctcag atagctaatt aggaaatttc aagttggcca ataatagcat 2650  
 tctctctgac atttaaaaaat aatttctatt caaaatacat gcatattgat 2700  
 ttacacctca tactgtgata attaatgtga tgtggattgc tgggtgtccag 2750  
 catgacctat aaacagggtca gaagaatgat ggaatgtttt agaataaact 2800  
 cctgcttata gtatactaca cagttcaaaa gatgtttaaa atgcttttgt 2850  
 atttactgcc atgtaattga aatatataga ttattgtaac ctttcaacct 2900  
 gaaaatcaag cagtatgaga gtttagttat ttgtatgtgt cactagtgtc 2950  
 taatgaagct tttaaaatct acaatttctt ctttaaaaaat atttattaat 3000  
 gtgaatggaa tataacaatt cagcttaatt cccaacctt attctgtgtg 3050  
 tagacattgt attccacaat tttgaatggc tgtgttttac ctctaaataa 3100  
 atgaattcag agaaaaaaaa aaaaaaa 3127

<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

Met	Gly	Ser	Val	Leu	Gly	Leu	Cys	Ser	Met	Ala	Ser	Trp	Ile	Pro
1				5					10					15
Cys	Leu	Cys	Gly	Ser	Ala	Pro	Cys	Leu	Leu	Cys	Arg	Cys	Cys	Pro
				20					25					30
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe
				35					40					45
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly
				50					55					60
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu
				65					70					75
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val
				80					85					90
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser
				95					100					105
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala
				110					115					120
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala
				125					130					135
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr
				140					145					150
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu
				155					160					165
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu
				170					175					180
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr
				185					190					195
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu
				200					205					210
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser
				215					220					225
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys
				230					235					240
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser
				245					250					255
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr
				260					265					270
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr
				275					280					285

Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	
				290					295					300	
Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	
				305					310					315	
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	
				320					325					330	
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	
				335					340					345	
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	
				350					355					360	
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	
				365					370					375	
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	
				380					385					390	
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	
				395					400					405	
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	
				410					415					420	
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	
				425					430					435	
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	
				440					445					450	
Asp	Phe	Asp													

<210> 74  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

<400> 74  
 gcgagaaaga agctgtctcc atcttgtctg tatcccgctg cttcttgnga 50  
 cgttgtggag atggggagcg tccctggggc tgtgctccat ggcgagctgg 100  
 ataccatgtt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggt ataaagctgt atatcgtttg tgctttggtt 350  
 tggctatgtt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

agcagtgatc ctagagctgc agtgcacaat ggattttggt tctttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75  
<211> 438  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
<223> unknown base

<400> 75  
gttattgtga actttgtgga gatgggaggt cntggggctg tgttccatgg 50  
cgagctggat accangtttg tgtggaagtg ccccggtgtt gntatgccga 100  
tgctgtccta gtggaacaa ntccactgta attagattga tntatgcact 150  
tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtccctt gtaacatttt gggtggctat aaagctgtat atngtttgtg 300  
ctttggtttg gctangttct atnttcttct ctctttacta atgatcaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
<211> 473  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 48  
<223> unknown base

<400> 76  
aagaagctgt ctccatcttg tctgtatccg ctgctcttgt gaacgttntg 50  
gagatgggga gcgtccttgg gggtgtgctc catggcgagc tggataccat 100  
gtttgtgtgg aagtgccccg tgtttgctat gccgatgctg tcctagtgga 150  
aacaactcca ctgtaactag attgatctat gcacttttct tgcttggttg 200  
agtatgtgta gcttgtgtaa tgttgatacc aggaatggaa gaacaactga 250  
ataagattcc tggattttgt gagaatgaga aagggtgttg cccttgtaac 300  
attttggttg gctataaagc tgtatatcgt ttgtgctttg gtttggctat 350  
gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagt 400  
atcctagagc tgcagtgcac aatggatttt gggtcttttaa atttgctgca 450  
gcaattgcaa ttattattgg ggc 473



<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
<223> unknown base

<400> 77  
gctgtcctta gtggaaacaa ntccaacttg taacttggat tgatctatgc 50  
actttttcct tgcttggttg agtatgtgta gctttgtgta atgttggtcc 100  
caggattgga ngaacaactg aataagattc ctggattttt gtgagaatga 150  
gaaagggtgtt gtccccttgt aacatttttg gttggtata aagctgtata 200  
tcgtttgtgc tttggttttg ctatgttcta tcttcttctc tctttactaa 250  
tgatcaaagt gaagagtagc agtgatccta gagctgcagt gcacaatgga 300  
ttttggttct ttaaatttgc tgcagcaatt gcaattatta ttggggcatt 350  
cttcattcca gaaggaactt ttacaactgt gtgggtttat gtaggcattg 400  
cagggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550  
tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600  
agttgttcag aaaacaaggc gttcatcagt gtcaacatgc tcctctgcgt 650  
tggtgcttct gtaatg 666

<210> 78  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 78  
atgtttgtgt ggaagtgtcc cg 22

<210> 79  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
gtcaacatgc tcctctgc 18

<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgccca ccactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
gccgatgctg tcctagtga aacaactcca ctgtaactag attgatctat 50

gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
ctcgggcgcg cacaggcagc tcggtttgcc ctgcgattga gctgcggggtc 50  
gcgggccggcg ccggcctctc caatggcaaa tgtgtgtggc tggaggcgag 100  
cgcgaggctt tcggcaaagg cagtcgagtg tttgcagacc ggggcgagtc 150  
ctgtgaaagc agataaaaga aaacatttat taacgtgtca ttacgagggg 200  
agcgcccgcg cggggctgtc gcactccccg cggaacattt ggctccctcc 250  
agctccgaga gaggagaaga agaaagcgga aaagaggcag attcacgtcg 300  
tttccagcca agtggacctg atcgatggcc ctctgaatt tatcacgata 350  
tttgatttat tagcgatgcc ccttggtttg tgtgttacgc acacacacgt 400  
gcacacaagg ctctggctcg cttccctccc tcgtttccag ctctgggcg 450  
aatcccacat ctgtttcaac tctccgccga gggcgagcag gagcgagagt 500  
gtgtcgaatc tgcgagtga gagggacgag ggaaaagaaa caaagccaca 550  
gacgcaactt gagactcccc catcccaaaa gaagcaccag atcagcaaaa 600



gtccgcagtc gctccatccg ctccagtgcc atcgaggtgg acggcaggg 2250  
gtaccacgta ggccctgggtg atgccgccca gccccgaaac ctcaccaagc 2300  
ggcactggcc agggggcccct gaggaccaag atgacaagga tgggtggggac 2350  
ttcagtgcca ctggaggcct tcccgactac tcagccgccca accccattaa 2400  
agtgacacat cgggtgctaca tcctagagaa cgacacagtc cagtgtgacc 2450  
tggacctgta caagtccctg caggcctgga aagaccacaa gctgcacatc 2500  
gaccacgaga ttgaaaccct gcagaacaaa attaagaacc tgagggaagt 2550  
ccgaggtcac ctgaagaaaa agcggccaga agaattgtgac tgtcacaaaa 2600  
tcagctacca caccagcac aaaggccgcc tcaagcacag aggctccagt 2650  
ctgcatcctt tcaggaaggc cctgcaagag aaggacaagg tgtggctgtt 2700  
gcgggagcag aagcgcaaga agaaactccg caagctgctc aagcgccctgc 2750  
agaacaacga cacgtgcagc atgccaggcc tcacgtgctt caccacgac 2800  
aaccagcact ggcagacggc gcctttcttg aactggggc ctttctgtgc 2850  
ctgcaccagc gccacaata acacgtactg gtgcatgagg accatcaatg 2900  
agactcaciaa tttcctcttc tgtgaatttg caactggctt cctagagtac 2950  
tttgatctca acacagaccc ctaccagctg atgaatgcag tgaacacact 3000  
ggacagggat gtcctcaacc agctacacgt acagctcatg gagctgagga 3050  
gctgcaaggg ttacaagcag tgtaaccccc ggactcgaaa catggacctg 3100  
gatggaggaa gctatgagca atacaggcag tttcagcgtc gaaagtggcc 3150  
agaaatgaag agaccttctt ccaaataact gggacaactg tgggaaggct 3200  
gggaagggtta agaaacaaca gaggtggacc tccaaaaaca tagaggcatc 3250  
acctgactgc acaggcaatg aaaaaccatg tgggtgattt ccagcagacc 3300  
tgtgctattg gccaggaggc ctgagaaagc aagcacgcac tctcagtcaa 3350  
catgacagat tctggaggat aaccagcagg agcagagata acttcaggaa 3400  
gtccattttt gccctgctt ttgctttgga ttatacctca ccagctgcac 3450  
aaaatgcatt ttttcgtatc aaaaagtcac cactaacct cccccagaag 3500  
ctcaciaaagg aaaacggaga gagcgagcga gagagatttc cttggaaatt 3550  
tctcccaagg gcgaaagtca ttggaatttt taaatcatag gggaaaagca 3600  
gtcctgttct aaatcctctt attcttttgg tttgtcacia agaaggaact 3650  
aagaagcagg acagaggcaa cgtggagagg ctgaaaacag tgcagagacg 3700  
tttgacaatg agtcagtagc acaaaagaga tgacatttac ctagcactat 3750  
aaaccctggg tgcctctgaa gaaactgcct tcattgtata tatgtgacta 3800

tttacatgta atcaacatgg gaacttttag gggaacctaa taagaaatcc 3850  
 caattttcag gagtggtggt gtcaataaac gctctgtggc cagtgtaaaa 3900  
 gaaaaa 3906

<210> 84  
 <211> 867  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Met Gly Pro Pro Ser Leu Val Leu Cys Leu Leu Ser Ala Thr Val  
 1 5 10 15  
 Phe Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg  
 20 25 30  
 Leu Lys Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn  
 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro  
 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
 245 250 255









<210> 91  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 91  
tagtacttgg gcacgaggtt ggag 24

<210> 92  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 92  
tcataccaac tgctggatcat tggc 24

<210> 93  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 93  
ctcaagctgc tggacacgga gcggccggtg aatcggtttc acttg 45

<210> 94  
<211> 971  
<212> DNA  
<213> Homo sapiens

<400> 94  
aacaagttc agtgactgag agggctgagc ggaggctgct gaaggggaga 50  
aaggagtgag gagctgctgg gcagagaggg actgtccggc tcccagatgc 100  
tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150  
gtggcgggtcc tgctgctgct gctgctgctg gccacctgcc ttttccacgg 200  
acggcaggac tgtgacgtgg agaggaaccg tacagctgca gggggaaacc 250  
gagtccgccg ggcccagcct tggcccttcc ggcgggggg ccacctggga 300  
atctttcacc atcaccgtca tcctggccac gtatctcatg tgccgaatgt 350  
gggcctccac caccaccacc acccccgcca caccctcac cacctccacc 400  
accaccacca cccccaccgc caccatcccc gccacgctcg ctgaggctgc 450  
tgtcgccggt gcctgtggac agcagctgcc cctgccctcc catctgttcc 500  
caggacaagt ggaccccatg tttccatgtg gaaggatgca tctctggggt 550  
gaacgagggg aacaatagac tggggcttgc tccagctgca tttgcatggc 600

atgccccagt gtactatggc agcagagaat ggaggaacac tgggtctgca 650  
 gtgctgaagg gtttggggag tggagagcaa ggggtgctctt tcggggctgg 700  
 acagcccgtc ttgtgacagt gactcccagt gagccccaga aatgacaagc 750  
 gtgtcttggc agagccagca cacaagtgga tgtgaagtgc cgtcttgac 800  
 ctctcatca ggctgctgca ggctctggc gggcagggca ctgggagagg 850  
 ccctgagaat gtccttttgg tttggagaag gcagtgtgag gctgcacagt 900  
 caattcatcg gtgccttagt ccaagaaaat aaaaaccact aagaagcttt 950  
 aaaaaaaaaa aaaaaaaaaa a 971

<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Leu Gly Leu Leu Gly Ser Thr Ala Leu Val Gly Trp Ile Thr  
 1 5 10 15  
 Gly Ala Ala Val Ala Val Leu Leu Leu Leu Leu Leu Leu Ala Thr  
 20 25 30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
 35 40 45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
 50 55 60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
 65 70 75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
 80 85 90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
 95 100 105  
 Pro His Arg His His Pro Arg His Ala Arg  
 110 115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
 ggcggctgct gagctgcctt gaggtgcagt gttggggatc cagagccatg 50  
 tcggacctgc tactactggg cctgattggg ggcttgactc tcttactgct 100  
 gctgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtg 150  
 aagtgagtgc tgggtcaccc cccatccgca acgtcactgt ggctacaag 200  
 ttccacatgg ggctctatgg tgagactggg cggcttttca ctgagagctg 250  
 cagcatctct cccaagctcc gctccatcgc tgtctactat gacaaccccc 300



Ser	Ile	Ala	Val	Tyr	Tyr	Asp	Asn	Pro	His	Met	Val	Pro	Pro	Asp	
				80					85					90	
Lys	Cys	Arg	Cys	Ala	Val	Gly	Ser	Ile	Leu	Ser	Glu	Gly	Glu	Glu	
				95					100					105	
Ser	Pro	Ser	Pro	Glu	Leu	Ile	Asp	Leu	Tyr	Gln	Lys	Phe	Gly	Phe	
				110					115					120	
Lys	Val	Phe	Ser	Phe	Pro	Ala	Pro	Ser	His	Val	Val	Thr	Ala	Thr	
				125					130					135	
Phe	Pro	Tyr	Thr	Thr	Ile	Leu	Ser	Ile	Trp	Leu	Ala	Thr	Arg	Arg	
				140					145					150	
Val	His	Pro	Ala	Leu	Asp	Thr	Tyr	Ile	Lys	Glu	Arg	Lys	Leu	Cys	
				155					160					165	
Ala	Tyr	Pro	Arg	Leu	Glu	Ile	Tyr	Gln	Glu	Asp	Gln	Ile	His	Phe	
				170					175					180	
Met	Cys	Pro	Leu	Ala	Arg	Gln	Gly	Asp	Phe	Tyr	Val	Pro	Glu	Met	
				185					190					195	
Lys	Glu	Thr	Glu	Trp	Lys	Trp	Arg	Gly	Leu	Val	Glu	Ala	Ile	Asp	
				200					205					210	
Thr	Gln	Val	Asp	Gly	Thr	Gly	Ala	Asp	Thr	Met	Ser	Asp	Thr	Ser	
				215					220					225	
Ser	Val	Ser	Leu	Glu	Val	Ser	Pro	Gly	Ser	Arg	Glu	Thr	Ser	Ala	
				230					235					240	
Ala	Thr	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Arg	Gly	Trp	Asp	Asp	Gly	
				245					250					255	
Asp	Thr	Arg	Ser	Glu	His	Ser	Tyr	Ser	Glu	Ser	Gly	Ala	Ser	Gly	
				260					265					270	
Ser	Ser	Phe	Glu	Glu	Leu	Asp	Leu	Glu	Gly	Glu	Gly	Pro	Leu	Gly	
				275					280					285	
Glu	Ser	Arg	Leu	Asp	Pro	Gly	Thr	Glu	Pro	Leu	Gly	Thr	Thr	Lys	
				290					295					300	
Trp	Leu	Trp	Glu	Pro	Thr	Ala	Pro	Glu	Lys	Gly	Lys	Glu			
				305					310						

<210> 98  
 <211> 725  
 <212> DNA  
 <213> Homo sapiens

<400> 98  
 ccgcgggaac gctgtcctgg ctgccgccac ccgaacagcc tgtcctggtg 50  
 ccccggtcc ctgccccgcg ccagtcattg accctgcgcc cctcactcct 100  
 cccgtccat ctgtgtgtgc tgtgtgtgt cagtgcggcg gtgtgccggg 150  
 ctgaggctgg gctcgaaacc gaaagtcccg tccggaccct ccaagtggag 200  
 accctggtgg agccccaga accatgtgcc gagcccgtg cttttggaga 250



185

190

195

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
cccgggaacg tgttcctggc tgccgcaccc gaacagcctg tcctggtgcc 50  
ccggctccct gccccgcgcc cagtcatgac cctgcgcccc tcactcctcc 100  
cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgccgggct 150  
gaggctgggc tcgaaaccga aagtcccgtc cggaccctcc aagtggagac 200  
cctggtggag cccccagaac catgtgcoga gcccgctgct tttggagaca 250  
cgcttcacat aactacacg ggaagcttgg tagatggacg tattattgac 300  
acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350  
gattccaggt ctggagcaga gtcttctoga catgtgtgtg ggagagaagc 400  
gaagggcaat cattccttct cacttggcct atggaaaacg gggatttcca 450  
ccatctgtcc cagcggatgc agtgggtgcag tatgacgtgg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatggtg ccaccctoct gggcctcatt gggatatcac 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaaacgaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
ccgaaagtcc cgtccggacc ctccaagtgg agaccctggt ggagccccca 50  
gaaccatgtg ccgagcccgc tgcttttga gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacaacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
ttctcacttg gcctatggaa aacggggatt tccaccatct gtcccagcgg 300  
atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
tactggctaa agctggtgaa gggcattttg cctctggtag ggatggccat 400



tccacatcca ccaactg 1316

<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

Met Ser Gly Phe Leu Glu Gly Leu Arg Cys Ser Glu Cys Ile Asp  
1 5 10 15  
Trp Gly Glu Lys Arg Asn Thr Ile Ala Ser Ile Ala Ala Gly Val  
20 25 30  
Leu Phe Phe Thr Gly Trp Trp Ile Ile Ile Asp Ala Ala Val Ile  
35 40 45  
Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60  
Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75  
Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90  
Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105  
Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120  
Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
125 130 135  
Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
140 145 150  
Arg Thr Glu Asp Leu Trp Gln  
155

<210> 104

<211> 545

<212> DNA

<213> Homo sapiens

<400> 104

ttcttggtcta aaatcggggg agtgaggcgg gccggcgcg cgcgacaccg 50  
ggctccggaa ccaactgcacg acggggctgg actgacctga aaaaaatgtc 100  
tggatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150  
agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200  
tggtggatta tcatagatgc agctgttatt tatcccacca tgaaagattt 250  
caaccactca taccatgcct gtggtgttat agcaaccata gccttcctaa 300  
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagtga 350  
ggttgtctgg gtcaaacagg tgctcgcat tggcttttcg ttggtttcat 400



gttggccttt ggatctctga ttgcatctat gtggattctt tttggagggt 450  
atgttgctaa agaaaaagac atagtatacc ctggaattgc tgtatatttc 500  
cagaatgcct tcatcttttt tggagggctg gtttttaagt ttggc 545

<210> 105  
<211> 490  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 31, 39, 108, 145, 179, 219, 412, 479  
<223> unknown base

<400> 105  
tggacggacc tgaaaaaat gtttggattt ntagaggnt tgagatgttc 50  
agaatgcatg actgggggaa aagcgcaaat actattgctt ccattgctgc 100  
tgggtgtaata ttttttacag gctggtggat tatcatagat gcagntgtta 150  
tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
atagcaacca tagccttcnt aatgattaat gcagtatoga atggacaagt 250  
ccgaggtgat agttacagt aaggttggtt gggtaaaca ggtgctcgca 300  
tttggctttt cgttggtttc atgttggcct ttggatctct gattgcatct 350  
atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
ccctggaatt gntgtatttt tccagaatgc cttcatcttt tttggagggc 450  
tggtttttaa gtttggccgc actgaagant tatggcagtg 490

<210> 106  
<211> 466  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
<223> unknown base

<400> 106  
ggacaccggg ttccggacca atgcangacg gggaggantg acctgaaaaa 50  
aatgtttgga ttttttagagg gcttgagatg ntcagaatgc attgactggg 100  
ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatatttt 150  
acaggggtgg ggattatcat agatgcagct gttatttatc ccaccatgaa 200  
agatttnaac cactcatacc atgcctgtgg tgttatagca accatagcct 250  
tcctaataat taatgcagta tcgaatggac aagtccgagg tgatagttac 300  
agtgaagggt gtttgggtca aacaggtgnt cgcatttggc ttttcggttg 350  
tttcatgttg gcctttggat ttctgattgn attctatgcg gattcttctt 400

ggaggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450  
atttttccag aatgcc 466

<210> 107

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356

<223> unknown base

<400> 107

tagagggtt gagatgctca gaatgcattg actgggggga aaagcgcaat 50

antattgctt ccattgntgn tgggtgnta tttttttaca ggctgggtgga 100

ttatnataga tgcagctgtt atttatccca ccatgaaaga tttnaaccan 150

tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200

tgcagtatng aatggacaag tccgaggtga tagttacagt gaaggttggtt 250

tgggtcaaac aggtgntngc atttggcttt tngttgggtt catgttggtcc 300

tttgatctn tgattgcatt tatgtggatt ntttttggag gttatgttgc 350

taaagnaaaa gacatagtat accctgt 377

<210> 108

<211> 552

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 12, 25, 65, 130, 437, 537

<223> unknown base

<400> 108

gggaggctgt gnccgttttg tttntttggc taaaatcggg ggagtgagggc 50

ggcccggcgc ggcngacac cgggttccgg gaaccattgc acgacgggggt 100

ggactgacct gaaaaaatg tttggatttn tagagggtt gagatgctca 150

gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200

tgggtgtacta ttttttacag gctggtggat tatcatagat gcagctgtta 250

tttatccac catgaaagat ttcaaccact cataccatgc ctgtggtgtt 300

atagcaacca tagccttccat aatgattaat gcagtatoga atggacaagt 350

ccgaggtgat agttacagtg aaggttgtct ggggtcaaaca ggtgctcgca 400

tttggttttt cgttggtttc atgttggtcct ttggatntct gattgcatct 450

atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 500

ccctggaatt gctgtatttt tccagaatgc cttcatnttt tttggagggc 550

tg 552

<210> 109  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 109  
gggtggatgg tactgctgca tcc 23

<210> 110  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 110  
tggttgctg tgggaaatca gatgtg 26

<210> 111  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 111  
gtgtctggag gctgtggccg tttgttttc ttgggctaaa atcggg 46

<210> 112  
<211> 3004  
<212> DNA  
<213> Homo sapiens

<400> 112  
cgacgccggc gtgatgtggc ttccgctggg gctgctcctg gctgtgctgc 50  
tgctggccgt cctctgcaaa gtttacttgg gactattctc tggcagctcc 100  
ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150  
tgacaaggag gccaggaaga aggttctcaa acaagctttt tcagccaacc 200  
aagtgccgga gaagctggat gtggtggtaa ttggcagtgg ctttgggggc 250  
ctggctgcag ctgcaattct agctaaagct ggcaagcgag tcctgggtgct 300  
ggaacaacat accaaggcag ggggctgctg tcataccttt ggaaagaatg 350  
gcottgaatt tgacacagga atccattaca ttgggcgtat ggaagagggc 400  
agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
ggctcccctg tcctctcctt ttgacatcat ggtactggaa gggcccaatg 500  
gccgaaagga gtaccccatg tacagtggag agaaagccta cattcagggc 550

ctcaaggaga agtttccaca ggaggaagct atcattgaca agtatataaa 600  
 gctgggtaag gtggtatcca gtggagcccc tcatgccatc ctggtgaaat 650  
 tcctcccatt gcccggtggtt cagctcctcg acaggtgtgg gctgctgact 700  
 cgtttctctc cattccttca agcatccacc cagagcctgg ctgaggtcct 750  
 gcagcagctg ggggcctcct ctgagctcca ggcagtactc agctacatct 800  
 tccccactta cgggtgtcacc cccaaccaca gtgccttttc catgcacgcc 850  
 ctgctgggtca accactacat gaaaggaggc ttttatcccc gaggggggttc 900  
 cagtgaaatt gccttccaca ccatccctgt gattcagcgg gctgggggcy 950  
 ctgtcctcac aaaggccact gtgcagagtg tgttgctgga ctcagctggg 1000  
 aaagcctgtg gtgtcagtgt gaagaagggg catgagctgg tgaacatcta 1050  
 ttgccccatc gtggtctcca acgcaggact gttcaacacc tatgaacacc 1100  
 tactgccggg gaacgcccgc tgcctgccag gtgtgaagca gcaactgggg 1150  
 acggtgcggc ccggcttagg catgacctct gttttcatct gcctgcgagg 1200  
 caccaaggaa gacctgcac tgcctccac caactactat gtttactatg 1250  
 acacggacat ggaccaggcg atggagcgt acgtctccat gccagggaa 1300  
 gaggtgcgg aacacatccc tcttctcttc ttgcctttcc catcagccaa 1350  
 agatccgacc tgggaggacc gattcccagg ccggtccacc atgatcatgc 1400  
 tcatacccac tgcctacgag tggtttgagg agtggcaggc ggagctgaag 1450  
 ggaaagcggg gcagtgacta tgagacctc aaaaactcct ttgtggaagc 1500  
 ctctatgtca gtggtcctga aactgttccc acagctggag gggaagggtg 1550  
 agagtgtgac tgcaggatcc cactcacca accagttcta tctggctgct 1600  
 ccccgagggtg cctgctacgg ggctgaccat gacctgggcc gcctgcaccc 1650  
 ttgtgtgatg gcctccttga gggcccagag ccccatcccc aacctctatc 1700  
 tgacaggcca ggatatcttc acctgtggac tggtcggggc cctgcaagg 1750  
 gccctgctgt gcagcagcg catcctgaag cggaaactgt actcagacct 1800  
 taagaatctt gattctagga tccgggcaca gaagaaaaag aattagttcc 1850  
 atcaggagg agtcagagga atttgcccc tggctggggc atctcccttg 1900  
 acttaccat aatgtctttc tgcattagtt ccttgcacgt ataaagcact 1950  
 ctaatttgg tctgatgcct gaagagaggc ctagtttaaa tcacaattcc 2000  
 gaatctggg caatggaatc actgcttcca gctggggcag gtgagatctt 2050  
 tacgcctttt ataacatgcc atccctacta ataggatatt gacttgata 2100  
 gcttgatgtc tcatgacgag cggcgtctg catccctcac ccatgcctcc 2150



Cys	His	Thr	Phe	Gly	Lys	Asn	Gly	Leu	Glu	Phe	Asp	Thr	Gly	Ile	
				110					115					120	
His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile	
				125					130					135	
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser	
				140					145					150	
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys	
				155					160					165	
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu	
				170					175					180	
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile	
				185					190					195	
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu	
				200					205					210	
Leu	Lys	Phe	Leu	Pro	Leu	Pro	Val	Val	Gln	Leu	Leu	Asp	Arg	Cys	
				215					220					225	
Gly	Leu	Leu	Thr	Arg	Phe	Ser	Pro	Phe	Leu	Gln	Ala	Ser	Thr	Gln	
				230					235					240	
Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu	
				245					250					255	
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro	
				260					265					270	
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr	
				275					280					285	
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala	
				290					295					300	
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu	
				305					310					315	
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys	
				320					325					330	
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile	
				335					340					345	
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr	
				350					355					360	
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys	
				365					370					375	
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val	
				380					385					390	
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser	
				395					400					405	
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met	
				410					415					420	

Glu	Arg	Tyr	Val	Ser	Met	Pro	Arg	Glu	Glu	Ala	Ala	Glu	His	Ile	
				425					430					435	
Pro	Leu	Leu	Phe	Phe	Ala	Phe	Pro	Ser	Ala	Lys	Asp	Pro	Thr	Trp	
				440					445					450	
Glu	Asp	Arg	Phe	Pro	Gly	Arg	Ser	Thr	Met	Ile	Met	Leu	Ile	Pro	
				455					460					465	
Thr	Ala	Tyr	Glu	Trp	Phe	Glu	Glu	Trp	Gln	Ala	Glu	Leu	Lys	Gly	
				470					475					480	
Lys	Arg	Gly	Ser	Asp	Tyr	Glu	Thr	Phe	Lys	Asn	Ser	Phe	Val	Glu	
				485					490					495	
Ala	Ser	Met	Ser	Val	Val	Leu	Lys	Leu	Phe	Pro	Gln	Leu	Glu	Gly	
				500					505					510	
Lys	Val	Glu	Ser	Val	Thr	Ala	Gly	Ser	Pro	Leu	Thr	Asn	Gln	Phe	
				515					520					525	
Tyr	Leu	Ala	Ala	Pro	Arg	Gly	Ala	Cys	Tyr	Gly	Ala	Asp	His	Asp	
				530					535					540	
Leu	Gly	Arg	Leu	His	Pro	Cys	Val	Met	Ala	Ser	Leu	Arg	Ala	Gln	
				545					550					555	
Ser	Pro	Ile	Pro	Asn	Leu	Tyr	Leu	Thr	Gly	Gln	Asp	Ile	Phe	Thr	
				560					565					570	
Cys	Gly	Leu	Val	Gly	Ala	Leu	Gln	Gly	Ala	Leu	Leu	Cys	Ser	Ser	
				575					580					585	
Ala	Ile	Leu	Lys	Arg	Asn	Leu	Tyr	Ser	Asp	Leu	Lys	Asn	Leu	Asp	
				590					595					600	
Ser	Arg	Ile	Arg	Ala	Gln	Lys	Lys	Lys	Asn						
				605					610						

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
 gcagcggcga ggcggcgggtg gtggctgagt ccgtggtggc agaggcgaag 50  
 gcgacagctc taggggttgg caccggcccc gagaggagga tgcgggtccg 100  
 gatagggctg acgctgctgc tgtgtgcggt gctgctgagc ttggcctcgg 150  
 cgtcctcgga tgaagaaggc agccaggatg aatccttaga ttccaagact 200  
 actttgacat cagatgagtc agtaaaggac catactactg caggcagagt 250  
 agttgctggt caaatatttc ttgattcaga agaatctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaagaggg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
 tgaagagcca aagaaagtac ggaaaccagc ttgaccgcc attgaaggca 450

cagcacatgg ggagccctgc cacttccctt ttcttttcct agataaggag 500  
tatgatgaat gtacatcaga tgggagggaa gatggcagac tgtggtgtgc 550  
tacaacctat gactacaaaag cagatgaaaa gtggggcctt tgtgaaactg 600  
aagaagaggc tgctaagaga cggcagatgc aggaagcaga aatgatgtat 650  
caaaactggaa tgaaaatcct taatggaagc aataagaaaa gccaaaaaag 700  
agaagcatat cggtatctcc aaaaggcagc aagcatgaac cataccaaaag 750  
ccctggagag agtgtcatat gctcttttat ttggtgatta cttgccacag 800  
aatatccagg cagcgagaga gatgtttgag aagctgactg aggaaggctc 850  
tcccaaggga cagactgctc ttggccttct gtatgcctct ggacttggtg 900  
ttaattcaag tcaggcaaag gctcttgtat attatacatt tggagctctt 950  
gggggcaatc taatagocca catggttttg gtaagtagac tttagtggaa 1000  
ggctaataat attaacatca gaagaatttg tggtttatag cggccacaac 1050  
tttttcagct ttcgatgcc agatttgctt gtattaagac caaatattca 1100  
gttgaacttc cttcaaattc ttgttaatgg atataacaca tggaatctac 1150  
atgtaaataa aagttggtgg agtcacaaat ttttctttaa aatgattagt 1200  
ttggctgatt gcccctaaaa agagagatct gataaatggc tcttttttaa 1250  
ttttctctga gttggaattg tcagaatcat tttttacatt agattatcat 1300  
aatttttaaa atttttcttt agtttttcaa aattttgtaa atgggtggcta 1350  
tagaaaaaca acatgaaata ttatacaata ttttgcaaca atgccctaag 1400  
aattgttaaa attcatggag ttatttgtgc agaagactc cagagagctc 1450  
tactttctgt tttttacttt tcatgattgg ctgtcttccc atttattctg 1500  
gtcatttatt gctagtgaac ctgtgcctgc ttccagtagt ctcatcttcc 1550  
ctattttgct aatttggtac tttttcttg ctaatttgga agattaactc 1600  
attttttaata aaattatgtc taagattaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700

a 1701

<210> 115  
<211> 301  
<212> PRT  
<213> Homo sapiens

<400> 115  
Met Arg Val Arg Ile Gly Leu Thr Leu Leu Leu Cys Ala Val Leu  
1 5 10 15  
Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
20 25 30



Glu	Ser	Leu	Asp	Ser	Lys	Thr	Thr	Leu	Thr	Ser	Asp	Glu	Ser	Val	35	40	45
Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe	50	55	60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu	65	70	75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp	80	85	90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu	95	100	105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly	110	115	120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp	125	130	135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg	140	145	150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp	155	160	165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
Ala	Leu	Gly	Gly	Asn	Leu	Ile	Ala	His	Met	Val	Leu	Val	Ser	Arg	290	295	300

Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens  
 <400> 116

ctccccagcc ctgtgcccc aagcacctgg agcatatagc cttgcagaac 50  
 ttctacttgc ctgcctccct gcctctggcc atggcctgcc ggtgcctcag 100  
 cttccttctg atggggacct tcctgtcagt ttcccagaca gtcctggccc 150  
 agctggatgc actgctggtc ttcccaggcc aagtggctca actctcctgc 200  
 acgctcagcc cccagcacgt caccatcagg gactacggtg tgtcctggta 250  
 ccagcagcgg gcaggcagtg cccctcgata tctcctctac taccgctcgg 300  
 aggaggatca ccaccggcct gctgacatcc ccgatcgatt ctcggcagcc 350  
 aaggatgagg ccacaaatgc ctgtgtcctc accattagtc ccgtgcagcc 400  
 tgaagacgac gcggattact actgctctgt tggctacggc tttagtccct 450  
 aggggtgggg tgtgagatgg gtgcctcccc tctgcctccc atttctgccc 500  
 ctgaccttgg gtccctttta aactttctct gagccttgct tcccctctgt 550  
 aaaatggggtt aataatattc aacatgtcaa caac 584

<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Met Ala Cys Arg Cys Leu Ser Phe Leu Leu Met Gly Thr Phe Leu  
 1 5 10 15  
 Ser Val Ser Gln Thr Val Leu Ala Gln Leu Asp Ala Leu Leu Val  
 20 25 30  
 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
 35 40 45  
 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
 50 55 60  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
 65 70 75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
 80 85 90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
 95 100 105  
 Gln Pro Glu Asp Asp Ala Asp Tyr Tyr Cys Ser Val Gly Tyr Gly  
 110 115 120  
 Phe Ser Pro

<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens

<400> 118

gccgccccgc cccgagaccg ggccccgggg cgcgggggcg cgggatgcgg 50  
 cgccccggggc ggcgatgacc gcggagcgca cgccgcgggc ccggccctga 100  
 ccccgccgcc cgcccgctga gccccccgcc gaggtccgga caggccgaga 150  
 tgacgcgcgag cccctgttg ctgctcctgc tgccgccgct gctgctgggg 200  
 gccttccac cggccgccgc cgcccgaggc ccccaaaga tggcggacaa 250  
 ggtggtccca cggcaggtgg ccgggtggg ccgcactgtg cggctgcagt 300  
 gccagtgga gggggaccgc ccgccgctga ccatgtggac caaggatggc 350  
 cgcaccatcc acagcggctg gagccgcttc cgctgctgc cgcaggggct 400  
 gaaggtgaag caggtggagc gggaggatgc cggcgtgtac gtgtgcaagg 450  
 ccaccaacgc cttcggcagc ctgagcgtca actacaccct cgctgctgctg 500  
 gatgacatta gccagggaa ggagagcctg gggcccgaca gtcctctggt 550  
 gggtaagag gaccccgcca gccagcagtg ggcacgaccg cgcttcacac 600  
 agccctcaa gatgaggcgc cgggtgatcg cacggcccg gggtagctcc 650  
 gtgcggtca agtgctggc cagcgggcac cctcggcccg acatcacgtg 700  
 gatgaaggac gaccaggcct tgacgcgccc agaggccgct gagcccagga 750  
 agaagaagtg gacactgagc ctgaagaacc tgcgcccgga ggacagcggc 800  
 aaatacacct gccgcgtgtc gaaccgcgcg ggcgccatca acgccacct 850  
 caaggtgat gtgatccagc ggaccgcttc caagcccggt ctcacaggca 900  
 cgcaccccg gaacacgagc gtggacttcg gggggaccac gtccttcag 950  
 tgcaaggtgc gcagcgacgt gaagccggtg atccagtggc tgaagcgcgt 1000  
 ggagtacggc gccgagggcc gccacaactc caccatcgat gtgggcggcc 1050  
 agaagtttgt ggtgctgccc acgggtgacg tgtggtcgcg gcccgacggc 1100  
 tcctacctca ataagctgct catcacccgt gcccgccagg acgatgcggg 1150  
 catgtacatc tgcttggtgc ccaacaccat gggctacagc ttccgcagcg 1200  
 ccttcctcac cgtgctgcca gacccaaaac cgccagggcc acctgtggcc 1250  
 tcctcgtcct cggccactag cctgcctgg ccggtgtca tcggcatccc 1300  
 agccggcgct gtcttcatcc tgggcaccct gtcctgtgg ctttgccagg 1350  
 ccagaagaa gccgtgcacc ccgcgcctg cccctcccct gcctgggcac 1400  
 cgcccgccgg ggacggcccg cgaccgcagc ggagacaagg accttcctc 1450  
 gttggccgcc ctcagcgtg gccctggtgt ggggctgtgt gaggagcatg 1500  
 ggtctccggc agccccccag cacttactgg gccagggcc agttgctggc 1550  
 cctaagttgt accccaaact ctacacagac atccacacac acacacacac 1600



gaaggaagac tgggttgacag ggactgtggt ctctcctggg gcccgggacc 3250  
 cgcctggtct ttcagccatg ctgatgacca caccctgtcc aggccagaca 3300  
 ccacccccca cccactgtc gtggtggccc cagatctctg taattttatg 3350  
 tagagtttga gctgaagccc cgtatatatta atttattttg ttaaacacaa 3400  
 aa 3402

<210> 119  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
 Met Thr Pro Ser Pro Leu Leu Leu Leu Leu Leu Pro Pro Leu Leu  
 1 5 10 15  
 Leu Gly Ala Phe Pro Pro Ala Ala Ala Ala Arg Gly Pro Pro Lys  
 20 25 30  
 Met Ala Asp Lys Val Val Pro Arg Gln Val Ala Arg Leu Gly Arg  
 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
 110 115 120  
 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
 230 235 240

Arg	Thr	Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	
				245					250					255	
Thr	Thr	Val	Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	
				260					265					270	
Arg	Ser	Asp	Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	
				275					280					285	
Tyr	Gly	Ala	Glu	Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	
				290					295					300	
Gln	Lys	Phe	Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	
				305					310					315	
Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu	Leu	Ile	Thr	Arg	Ala	Arg	Gln	
				320					325					330	
Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	
				335					340					345	
Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys	
				350					355					360	
Pro	Pro	Gly	Pro	Pro	Val	Ala	Ser	Ser	Ser	Ser	Ala	Thr	Ser	Leu	
				365					370					375	
Pro	Trp	Pro	Val	Val	Ile	Gly	Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile	
				380					385					390	
Leu	Gly	Thr	Leu	Leu	Leu	Trp	Leu	Cys	Gln	Ala	Gln	Lys	Lys	Pro	
				395					400					405	
Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro	
				410					415					420	
Gly	Thr	Ala	Arg	Asp	Arg	Ser	Gly	Asp	Lys	Asp	Leu	Pro	Ser	Leu	
				425					430					435	
Ala	Ala	Leu	Ser	Ala	Gly	Pro	Gly	Val	Gly	Leu	Cys	Glu	Glu	His	
				440					445					450	
Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val	
				455					460					465	
Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr	
				470					475					480	
His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys	
				485					490					495	
Val	His	Gln	His	Ile	His	Tyr	Gln	Cys							
				500											

<210> 120  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 120

cgagatgacg ccgagccccc 20

<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

cggttcgaca cgcggcaggt g 21

<210> 122

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

tgctgctcct gctgccgccg ctgctgctgg gggccttccc gccgg 45

<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

cccagctgag gagccctgct caagacacgg tcaactggatc tgagaaactt 50

cccaggggac cgcattccag agtcagtac tctgtgaagc acccacatct 100

acctcttgcc acgttccac gggcttgggg gaaagatggg ggggaccaag 150

gcctgggtgt tctccttcct ggtcctggaa gtcacatctg tggtggggag 200

acagacgatg ctcaccagc cagtaagaag agtcagcct gggaagaaga 250

acccagcat ctttgccaag cctgccgaca cctggagag cctgggtgag 300

tggacaacat ggttcaacat cgactaccca ggcggaagg gcgactatga 350

gcggctggac gccattcgt tctactatgg ggaccgtgta tgtgcccgtc 400

ccctgcggct agaggctcgg accactgact ggacacctgc gggcagcact 450

ggccaggtgg tccatggtag tcccctgag ggtttctggt gcctcaacag 500

ggagcagcgg cctggccaga actgctctaa ttacaccgta cgcttcctct 550

gccaccagg atccctgcgc cgagacacag agcgcatctg gagcccatgg 600

tctccctgga gcaagtgtc agctgcctgt ggtcagactg gggccagac 650

tcgcacacgc atttgcttg cagagatggg gtcgctgtgc agtgaggcca 700

gcgaagaggg tcagcactgc atgggccagg actgtacagc ctgtgacctg 750

acctgcccac tgggccagg gaatgctgac tgtgatgcct gcatgtgcca 800

ggacttcatg cttcatgggg ctgtctccct tcccggagg gcccagcct 850

caggggctgc tatctacctc ctgaccaaga cgccgaagct gctgacccag 900  
 acagacagtg atgggagatt ccgaatccct ggcttgtgcc ctgatggcaa 950  
 aagcatcctg aagatcacia aggtcaagtt tgccccatt gtactcacia 1000  
 tgcccaagac tagcctgaag gcagccacca tcaaggcaga gtttgtgagg 1050  
 gcagagactc catacatggt gatgaaccct gagacaaaag cacggagagc 1100  
 tgggcagagc gtgtctctgt gctgtaaggc cacagggaag cccaggccag 1150  
 acaagtatth ttggtatcat aatgacacat tgctggatcc ttccctctac 1200  
 aagcatgaga gcaagctggt gctgaggaaa ctgcagcagc accaggctgg 1250  
 ggagtactth tgcaaggccc agagtgatgc tggggctgtg aagtccaagg 1300  
 ttgccagct gattgtcaca gcatctgatg agactccttg caaccagtt 1350  
 cctgagagct atcttatccg gctgccccat gattgctthc agaatgccac 1400  
 caactccttc tactatgacg tgggacgctg cctgtttaag acttgtgcag 1450  
 ggcagcagga taatgggatc aggtgccgtg atgctgtgca gaactgctgt 1500  
 ggcatctcca agacagagga aaggagatc cagtgcagtg gctacacgct 1550  
 accaccaag gtggccaagg agtgcagctg ccagcgggtg acggaaactc 1600  
 ggagcatcgt gcggggccgt gtcagtgctg ctgacaatgg ggagcccatg 1650  
 cgctttggcc atgtgtacat ggggaacagc cgtgtaagca tgactggcta 1700  
 caagggcact ttcacctcc atgtcccca ggacactgag aggctggtgc 1750  
 tcacatttgt ggacaggctg cagaagtttg tcaacaccac caaagtgcta 1800  
 cttttcaaca agaaggggag tgccgtgttc catgaaatca agatgcttcg 1850  
 tcggaaagag cccatcactt tggaagccat ggagaccaac atcatcccc 1900  
 tgggggaagt ggttggtgaa gaccccatgg ctgaactgga gattccatcc 1950  
 aggagtttct acaggcagaa tggggagccc tacataggaa aagtgaaggc 2000  
 cagtgtgacc ttcttgatc cccggaatat ttccacagcc acagctgcc 2050  
 agactgacct gaacttcac aatgacgaag gagacactth ccccttcgg 2100  
 acgtatggca tgttctctgt ggacttcaga gatgaggta cctcagagcc 2150  
 acttaatgct ggcaaagtga aggtccacct tgactcgacc caggtaaga 2200  
 tgccagagca catatccaca gtgaaactct ggtcactcaa tccagacaca 2250  
 gggctgtggg aggaggaagg tgatttcaaa tttgaaaatc aaaggaggaa 2300  
 caaaagagaa gacagaacct tctggtggg caacctggag attcgtgaga 2350  
 ggaggctctt taacctggat gttcctgaaa gcaggcgggtg ctttgtaag 2400  
 gtgagggcct accggagtga gaggttcttg cctagtgagc agatccaggg 2450



gggtgtgata tccgtgatta acctggagcc tagaactggc ttcttgtoca 2500  
 accctagggc ctggggccgc tttgacagtg tcatcacagg cccaacggg 2550  
 gcctgtgtgc ctgccttctg tgatgaccag tccctgatg cctactctgc 2600  
 ctatgtcttg gcaagcctgg ctggggagga actgcaagca gtggagtctt 2650  
 ctctaaatt caacccaaat gcaattggcg tccctcagcc ctatctcaac 2700  
 aagctcaact accgtcggac ggaccatgag gatccacggg ttaaaaagac 2750  
 agctttccag attagcatgg ccaagccaag gcccaactca gctgaggaga 2800  
 gcaatgggcc catctatgcc tttgagaacc tccgggcag tgaagaggca 2850  
 ccaccagtg cagccactt ccggttctac cagattgagg gggatcgata 2900  
 tgactacaac acagtcccct tcaacgaaga tgaccctatg agctggactg 2950  
 aagactatct ggcatggtgg ccaaagccga tggaattcag ggctgctat 3000  
 atcaaggtga agattgtggg gccactggaa gtgaatgtgc gatcccgcaa 3050  
 catggggggc actcatcggc ggacagtggg gaagctgtat ggaatccgag 3100  
 atgtgaggag cactcgggac agggaccagc ccaatgtctc agctgcctgt 3150  
 ctggagttca agtgacgtg gatgctctat gatcaggacc gtgtggaccg 3200  
 caccctggtg aaggtcatcc ccagggcag ctgccgtcga gccagtgtga 3250  
 accccatgct gcatgagtac ctggtcaacc acttgccact tgcagtcaac 3300  
 aacgacacca gtgagtacac catgctggca cccttgacc cactgggcca 3350  
 caactatggc atctacactg tcaactgacca ggaccctcgc acggccaagg 3400  
 agatcgcgct cggccggtgc tttgatggca catccgatgg ctctccaga 3450  
 atcatgaaga gcaatgtggg agtagccctc accttcaact gtgtagagag 3500  
 gcaagtaggc cgccagagtg ccttccagta cctccaaagc accccagccc 3550  
 agtcccctgc tgcaggcact gtccaaggaa gagtgccctc gaggaggcag 3600  
 cagcgagcga gcaggggtg ccagcgccag ggtggagtgg tggcctctct 3650  
 gagatttcct agagttgctc aacagcccct gatcaactaa gttttgtgg 3700  
 acttcaccct cttctgccct catttcatgt gacagccatt gtgagactga 3750  
 tgcacaaact gtcacttggg taatttaagc acttctgttt tcgtgaattt 3800  
 gcttgtttgt ttcttcatgc ctttacttac tttgtcccat gctactgatt 3850  
 ggcacgtggc cccacaatg gcacaataaa gccctttgt gaaactgttc 3900  
 tttaaatgaa acacaagaaa ttggccactg gtaaaactct gcagcttcaa 3950  
 ctgtacttca tttaatgcca ttaatgcaa tatacttcct cttctttttg 4000  
 catggttttg cccacctctg caatagtgat aatctgatgc tgaagatcaa 4050

ataaccaata taaagcatat ttcttggcct tgctccacag gacataggca 4100  
 agccttgatc atagttcata catataaatg gtggtgaaat aaagaaataa 4150  
 aacacaatac ttttaactga aatgtaaata acttatttat ttctttgcta 4200  
 aatttggaat tctagtgcac attcaaagtt aagctattaa atatagggtg 4250  
 atcatagttc ctctaccaag tctggaaaga acatctcctg gtatccacaa 4300  
 ttacaccagg ttgctaactg tatttgtaaca tttccctttg cattcgcttt 4350  
 tgttcttgct agaaaccag tgtagcccag ggcagatgtc aataaatgca 4400  
 tactctgtat ttcgaaaaaa 4420

<210> 124  
 <211> 1184  
 <212> PRT  
 <213> Homo sapiens

<400> 124  
 Met Val Gly Thr Lys Ala Trp Val Phe Ser Phe Leu Val Leu Glu  
 1 5 10 15  
 Val Thr Ser Val Leu Gly Arg Gln Thr Met Leu Thr Gln Ser Val  
 20 25 30  
 Arg Arg Val Gln Pro Gly Lys Lys Asn Pro Ser Ile Phe Ala Lys  
 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
 110 115 120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln	Val	Asn	Ala	Asp	Cys	Asp	Ala	Cys	Met	Cys	Gln	Asp	Phe	Met	215	220	225
Leu	His	Gly	Ala	Val	Ser	Leu	Pro	Gly	Gly	Ala	Pro	Ala	Ser	Gly	230	235	240
Ala	Ala	Ile	Tyr	Leu	Leu	Thr	Lys	Thr	Pro	Lys	Leu	Leu	Thr	Gln	245	250	255
Thr	Asp	Ser	Asp	Gly	Arg	Phe	Arg	Ile	Pro	Gly	Leu	Cys	Pro	Asp	260	265	270
Gly	Lys	Ser	Ile	Leu	Lys	Ile	Thr	Lys	Val	Lys	Phe	Ala	Pro	Ile	275	280	285
Val	Leu	Thr	Met	Pro	Lys	Thr	Ser	Leu	Lys	Ala	Ala	Thr	Ile	Lys	290	295	300
Ala	Glu	Phe	Val	Arg	Ala	Glu	Thr	Pro	Tyr	Met	Val	Met	Asn	Pro	305	310	315
Glu	Thr	Lys	Ala	Arg	Arg	Ala	Gly	Gln	Ser	Val	Ser	Leu	Cys	Cys	320	325	330
Lys	Ala	Thr	Gly	Lys	Pro	Arg	Pro	Asp	Lys	Tyr	Phe	Trp	Tyr	His	335	340	345
Asn	Asp	Thr	Leu	Leu	Asp	Pro	Ser	Leu	Tyr	Lys	His	Glu	Ser	Lys	350	355	360
Leu	Val	Leu	Arg	Lys	Leu	Gln	Gln	His	Gln	Ala	Gly	Glu	Tyr	Phe	365	370	375
Cys	Lys	Ala	Gln	Ser	Asp	Ala	Gly	Ala	Val	Lys	Ser	Lys	Val	Ala	380	385	390
Gln	Leu	Ile	Val	Thr	Ala	Ser	Asp	Glu	Thr	Pro	Cys	Asn	Pro	Val	395	400	405
Pro	Glu	Ser	Tyr	Leu	Ile	Arg	Leu	Pro	His	Asp	Cys	Phe	Gln	Asn	410	415	420
Ala	Thr	Asn	Ser	Phe	Tyr	Tyr	Asp	Val	Gly	Arg	Cys	Pro	Val	Lys	425	430	435
Thr	Cys	Ala	Gly	Gln	Gln	Asp	Asn	Gly	Ile	Arg	Cys	Arg	Asp	Ala	440	445	450
Val	Gln	Asn	Cys	Cys	Gly	Ile	Ser	Lys	Thr	Glu	Glu	Arg	Glu	Ile	455	460	465
Gln	Cys	Ser	Gly	Tyr	Thr	Leu	Pro	Thr	Lys	Val	Ala	Lys	Glu	Cys	470	475	480
Ser	Cys	Gln	Arg	Cys	Thr	Glu	Thr	Arg	Ser	Ile	Val	Arg	Gly	Arg	485	490	495
Val	Ser	Ala	Ala	Asp	Asn	Gly	Glu	Pro	Met	Arg	Phe	Gly	His	Val	500	505	510
Tyr	Met	Gly	Asn	Ser	Arg	Val	Ser	Met	Thr	Gly	Tyr	Lys	Gly	Thr	515	520	525

Phe Thr Leu His	Val	Pro Gln Asp Thr	Glu	Arg Leu Val Leu	Thr	
	530		535		540	
Phe Val Asp Arg	Leu	Gln Lys Phe Val	Asn Thr Thr Lys Val	Leu		
	545		550		555	
Pro Phe Asn Lys	Lys	Gly Ser Ala Val	Phe His Glu Ile Lys	Met		
	560		565		570	
Leu Arg Arg Lys	Glu	Pro Ile Thr Leu	Glu Ala Met Glu Thr	Asn		
	575		580		585	
Ile Ile Pro Leu	Gly	Glu Val Val Gly	Glu Asp Pro Met Ala	Glu		
	590		595		600	
Leu Glu Ile Pro	Ser	Arg Ser Phe Tyr	Arg Gln Asn Gly Glu	Pro		
	605		610		615	
Tyr Ile Gly Lys	Val	Lys Ala Ser Val	Thr Phe Leu Asp Pro	Arg		
	620		625		630	
Asn Ile Ser Thr	Ala	Thr Ala Ala Gln	Thr Asp Leu Asn Phe	Ile		
	635		640		645	
Asn Asp Glu Gly	Asp	Thr Phe Pro Leu	Arg Thr Tyr Gly Met	Phe		
	650		655		660	
Ser Val Asp Phe	Arg	Asp Glu Val Thr	Ser Glu Pro Leu Asn	Ala		
	665		670		675	
Gly Lys Val Lys	Val	His Leu Asp Ser	Thr Gln Val Lys Met	Pro		
	680		685		690	
Glu His Ile Ser	Thr	Val Lys Leu Trp	Ser Leu Asn Pro Asp	Thr		
	695		700		705	
Gly Leu Trp Glu	Glu	Glu Gly Asp Phe	Lys Phe Glu Asn Gln	Arg		
	710		715		720	
Arg Asn Lys Arg	Glu	Asp Arg Thr Phe	Leu Val Gly Asn Leu	Glu		
	725		730		735	
Ile Arg Glu Arg	Arg	Leu Phe Asn Leu	Asp Val Pro Glu Ser	Arg		
	740		745		750	
Arg Cys Phe Val	Lys	Val Arg Ala Tyr	Arg Ser Glu Arg Phe	Leu		
	755		760		765	
Pro Ser Glu Gln	Ile	Gln Gly Val Val	Ile Ser Val Ile Asn	Leu		
	770		775		780	
Glu Pro Arg Thr	Gly	Phe Leu Ser Asn	Pro Arg Ala Trp Gly	Arg		
	785		790		795	
Phe Asp Ser Val	Ile	Thr Gly Pro Asn	Gly Ala Cys Val Pro	Ala		
	800		805		810	
Phe Cys Asp Asp	Gln	Ser Pro Asp Ala	Tyr Ser Ala Tyr Val	Leu		
	815		820		825	
Ala Ser Leu Ala	Gly	Glu Glu Leu Gln	Ala Val Glu Ser Ser	Pro		
	830		835		840	



Gln Arg Ala Ser Arg Gly Gly Gln Arg Gln Gly Gly Val Val Ala  
 1160 1165 1170

Ser Leu Arg Phe Pro Arg Val Ala Gln Gln Pro Leu Ile Asn  
 1175 1180

<210> 125  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 125  
 ctggtgcctc aacagggagc ag 22

<210> 126  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 126  
 ccattgtgca ggtcaggtca cag 23

<210> 127  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 127  
 ctggagcaag tgctcagctg cctgtggtca gactggggtc 40

<210> 128  
 <211> 2819  
 <212> DNA  
 <213> Homo sapiens

<400> 128  
 ctgcaagttg ttaacgccta acacacaagt atgttaggct tccaccaaag 50  
 tcctcaatat acctgaatac gcacaatatc ttaactcttc atatttggtt 100  
 ttgggatctg ctttgaggtc ccatcttcat ttaaaaaaaaa atacagagac 150  
 ctacctaccc gtacgcatac atacatatgt gtatatatat gtaaactaga 200  
 caaagatcgc agatcataaa gcaagctctg ctttagtttc caagaagatt 250  
 acaaagaatt tagagatgta tttgtcaaga tccctgtcga ttcatgccct 300  
 ttgggttacg gtgtcctcag tgatgcagcc ctaccctttg gtttggggac 350  
 attatgatatt gtgtaagact cagatttaca cggaagaagg gaaagtttgg 400  
 gattacatgg cctgccagcc ggaatccacg gacatgacaa aatatctgaa 450

agtgaaactc gatcctccgg atattacctg tggagaccct cctgagacgt 500  
 tctgtgcaat gggcaatccc tacatgtgca ataatgagtg tgatgcgagt 550  
 acccctgagc tggcacaccc ccctgagctg atgtttgatt ttgaaggaag 600  
 acatccctcc acattttggc agtctgccac ttggaaggag tatcccaagc 650  
 ctctccaggt taacatcact ctgtcttggg gcaaaaccat tgagctaaca 700  
 gacaacatag ttattacctt tgaatctggg cgtccagacc aaatgatcct 750  
 ggagaagtct ctcgattatg gacgaacatg gcagccctat cagtattatg 800  
 ccacagactg cttagatgct ttccacatgg atcctaaatc cgtgaaggat 850  
 ttatcacagc atacggtctt agaaatcatt tgcacagaag agtactcaac 900  
 agggatataca acaaataagca aaataatcca ctttgaaatc aaagacaggt 950  
 tcgcgctttt tgctggacct cgcctacgca atatggcttc cctctacgga 1000  
 cagctggata caaccaagaa actcagagat ttcttttacag tcacagacct 1050  
 gaggataagg ctgttaagac cagccgttgg ggaaatattt gtagatgagc 1100  
 tacacttggc acgctacttt tacgcgatct cagacataaa ggtgcgagga 1150  
 aggtgcaagt gtaatctcca tgccactgta tgtgtgtatg acaacagcaa 1200  
 attgacatgc gaatgtgagc acaacactac aggtccagac tgtgggaaat 1250  
 gcaagaagaa ttatcagggc cgaccttggg gtccaggctc ctatctcccc 1300  
 atcccccag gcaactgcaa tacctgtatc ccagtatatt ccagtattgg 1350  
 tacgaatgtc tgcgacaacg agctcctgca ctgccagaac ggagggacgt 1400  
 gccacaacaa cgtgcgctgc ctgtgcccgg ccgcatacac gggcatcctc 1450  
 tgcgagaagc tgcggtgcga ggaggctggc agctgcggtc ccgactctgg 1500  
 ccagggcgcg ccccgccagc gcacccacgc gctgctgctg ctgaccacgc 1550  
 tgctgggaac cgccagcccc ctggtgttct aggtgtcacc tccagccaca 1600  
 ccggacgggc ctgtgccgtg gggaagcaga cacaacccaa acatttgcta 1650  
 ctaacatagg aaacacacac atacagacac cccactcag acagtgtaca 1700  
 aactaagaag gcctaactga actaagccat atttatcacc cgtggacagc 1750  
 acatccgagt caagactgtt aatttctgac tccagaggag ttggcagctg 1800  
 ttgatattat cactgcaaata cacattgcca gctgcagagc atattgtgga 1850  
 ttggaaaggc tgcgacagcc ccccaaacag gaaagacaaa aaacaaacaa 1900  
 atcaaccgac ctaaaaacat tggctactct agcgtggtgc gccctagtag 1950  
 gactccgccc agtgtgtgga ccaaccaaata agcattcttt gctgtcaggt 2000  
 gcattgtggg cataaggaaa tctgttataa gctgccatat tggcctgctt 2050

ccgtccctga atcccttcca acctgtgctt tagtgaacgt tgctctgtaa 2100  
 ccctcgttgg ttgaaagatt tctttgtctg atgttagtga tgcacatgtg 2150  
 taacagcccc ctctaaaagc gcaagccagt catacccctg tatatcttag 2200  
 cagcactgag tccagtgcga gcacacaccc actatacaag agtggctata 2250  
 ggaaaaaaga aagtgtatct atccttttgt attcaaatga agttattttt 2300  
 cttgaactac tgtaatatgt agattttttg tattattgcc aatttgtggt 2350  
 accagacaat ctgttaatgt atctaattcg aatcagcaaa gactgacatt 2400  
 ttattttgtc ctctttcggt ctgttttggt tcaactgtgca gagatttctc 2450  
 tgtaagggca acgaacgtgc tggcatcaaa gaatatcagt ttacatatat 2500  
 aacaagtgtataaagattcc accaaaggac attctaaatg ttttcttggt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
 gtttcacact cactttactg atttctgtgt ggactgagta cattcagctg 2700  
 acgaatttag ttcccaggaa gatggattga tgttcactag cttggacaac 2750  
 ttctgcaaaa tatgagacta tttccacttg ggaaaaatta caacagcaaa 2800  
 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129

<211> 438

<212> PRT

<213> Homo sapiens

<400> 129

Met	Tyr	Leu	Ser	Arg	Ser	Leu	Ser	Ile	His	Ala	Leu	Trp	Val	Thr
1				5					10					15
Val	Ser	Ser	Val	Met	Gln	Pro	Tyr	Pro	Leu	Val	Trp	Gly	His	Tyr
				20					25					30
Asp	Leu	Cys	Lys	Thr	Gln	Ile	Tyr	Thr	Glu	Glu	Gly	Lys	Val	Trp
				35					40					45
Asp	Tyr	Met	Ala	Cys	Gln	Pro	Glu	Ser	Thr	Asp	Met	Thr	Lys	Tyr
				50					55					60
Leu	Lys	Val	Lys	Leu	Asp	Pro	Pro	Asp	Ile	Thr	Cys	Gly	Asp	Pro
				65					70					75
Pro	Glu	Thr	Phe	Cys	Ala	Met	Gly	Asn	Pro	Tyr	Met	Cys	Asn	Asn
				80					85					90
Glu	Cys	Asp	Ala	Ser	Thr	Pro	Glu	Leu	Ala	His	Pro	Pro	Glu	Leu
				95					100					105
Met	Phe	Asp	Phe	Glu	Gly	Arg	His	Pro	Ser	Thr	Phe	Trp	Gln	Ser
				110					115					120
Ala	Thr	Trp	Lys	Glu	Tyr	Pro	Lys	Pro	Leu	Gln	Val	Asn	Ile	Thr



	125		130		135
Leu Ser Trp Ser	Lys Thr Ile Glu Leu	Thr Asp Asn Ile Val	Ile		
	140		145		150
Thr Phe Glu Ser	Gly Arg Pro Asp Gln	Met Ile Leu Glu Lys	Ser		
	155		160		165
Leu Asp Tyr Gly	Arg Thr Trp Gln Pro	Tyr Gln Tyr Tyr Ala	Thr		
	170		175		180
Asp Cys Leu Asp	Ala Phe His Met Asp	Pro Lys Ser Val Lys	Asp		
	185		190		195
Leu Ser Gln His	Thr Val Leu Glu Ile	Ile Cys Thr Glu Glu	Tyr		
	200		205		210
Ser Thr Gly Tyr	Thr Thr Asn Ser Lys	Ile Ile His Phe Glu	Ile		
	215		220		225
Lys Asp Arg Phe	Ala Leu Phe Ala Gly	Pro Arg Leu Arg Asn	Met		
	230		235		240
Ala Ser Leu Tyr	Gly Gln Leu Asp Thr	Thr Lys Lys Leu Arg	Asp		
	245		250		255
Phe Phe Thr Val	Thr Asp Leu Arg Ile	Arg Leu Leu Arg Pro	Ala		
	260		265		270
Val Gly Glu Ile	Phe Val Asp Glu Leu	His Leu Ala Arg Tyr	Phe		
	275		280		285
Tyr Ala Ile Ser	Asp Ile Lys Val Arg	Gly Arg Cys Lys Cys	Asn		
	290		295		300
Leu His Ala Thr	Val Cys Val Tyr Asp	Asn Ser Lys Leu Thr	Cys		
	305		310		315
Glu Cys Glu His	Asn Thr Thr Gly Pro	Asp Cys Gly Lys Cys	Lys		
	320		325		330
Lys Asn Tyr Gln	Gly Arg Pro Trp Ser	Pro Gly Ser Tyr Leu	Pro		
	335		340		345
Ile Pro Lys Gly	Thr Ala Asn Thr Cys	Ile Pro Ser Ile Ser	Ser		
	350		355		360
Ile Gly Thr Asn	Val Cys Asp Asn Glu	Leu Leu His Cys Gln	Asn		
	365		370		375
Gly Gly Thr Cys	His Asn Asn Val Arg	Cys Leu Cys Pro Ala	Ala		
	380		385		390
Tyr Thr Gly Ile	Leu Cys Glu Lys Leu	Arg Cys Glu Glu Ala	Gly		
	395		400		405
Ser Cys Gly Ser	Asp Ser Gly Gln Gly	Ala Pro Pro His Gly	Thr		
	410		415		420
Pro Ala Leu Leu	Leu Leu Thr Thr Leu	Leu Gly Thr Ala Ser	Pro		
	425		430		435
Leu Val Phe					

<210> 130  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 130  
tcgattatgg acgaacatgg cagc 24

<210> 131  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 131  
ttctgagatc cctcatcctc 20

<210> 132  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 132  
aggttcaggg acagcaagtt tggg 24

<210> 133  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 133  
tttgctggac ctcggtacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
<211> 1493  
<212> DNA  
<213> Homo sapiens

<400> 134  
cccacgcgtc cgggtgacct gggccgagcc ctcccggtcg gctaagattg 50  
ctgaggaggc ggcgggtagc tggcaggcgc cgacttccga aggccgccgt 100  
ccgggcgagg tgcctcatg acttctcttg tggaccatgt cegtgatctt 150  
ttttgcctgc gtggtacggg taagggatgg actgccctc tcagcctcta 200  
ctgattttta ccacaccaa gatttttttg aatggaggag acggctcaag 250  
agtttagcct tgcgactggc ccagtatcca ggtcgagggt ctgcagaagg 300

ttgtgacttt agtatacatt tttcttcttt cggggacgtg gcctgcatgg 350  
ctatctgctc ctgccagtgt ccagcagcca tggccttctg cttcctggag 400  
accctgtggt gggaattcac agcttcctat gacactacct gcattggcct 450  
agcctccagg ccatacgctt ttcttgagtt tgacagcatc attcagaaaag 500  
tgaagtggca ttttaactat gtaagttcct ctcagatgga gtgcagcttg 550  
gaaaaaattc aggaggagct caagttgcag cctccagcgg ttctcactct 600  
ggaggacaca gatgtggcaa atgggggtgat gaatggtcac acaccgatgc 650  
acttgagacc tgctcctaatt ttccgaatgg aaccagtgac agccctgggt 700  
atcctctccc tcattctcaa catcatgtgt gctgccctga atctcattcg 750  
aggagttcac cttgcagaac attctttaca ggatccaagg agctggttct 800  
gctggttgga ccaaacctcg tgagccagcc acccctgacc caaatgagga 850  
gagctctgat tctcccatcc gggagcagtg atgtcaaact tctgctgctg 900  
gggaaatctc atcagcaggg agcctgtgga aaagggcatg tcagtgaaat 950  
ctgggaatgg ctggattcgg aaacatctgc ccatgtgtat tgatggcaga 1000  
gctgttgccc acaagcgctt tttatttagg gtaaaattaa caaatccatt 1050  
ctattcctct gacccatgct tagtacatat gacctttaac ccttacattt 1100  
atatgattct ggggttgctt cagaagtgtt atttcatgaa tcattcatat 1150  
gatttgatcc cccaggattc tattttgttt aatgggcttt tctactaaaa 1200  
gcataaaata ctgaggctga tttagtcagg gcaaaaccat ttactttaca 1250  
tattcgtttt caatacttgc tgttcatgtt acacaagctt cttacggttt 1300  
tcttgtaaca ataaatatat tgagtaaata atgggtacat ttttaacaaac 1350  
tcagtagtac aacctaaaact tgtataaaaag tgtgtaaaaa tgtatagcca 1400  
tttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaat 1450  
aaatctaaag tgtttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135

<211> 228

<212> PRT

<213> Homo sapiens

<400> 135

Met	Ser	Val	Ile	Phe	Phe	Ala	Cys	Val	Val	Arg	Val	Arg	Asp	Gly
1				5					10					15
Leu	Pro	Leu	Ser	Ala	Ser	Thr	Asp	Phe	Tyr	His	Thr	Gln	Asp	Phe
				20					25					30
Leu	Glu	Trp	Arg	Arg	Arg	Leu	Lys	Ser	Leu	Ala	Leu	Arg	Leu	Ala
				35					40					45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	
				50					55					60	
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	
				65					70					75	
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	
				80					85					90	
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	
				95					100					105	
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	
				110					115					120	
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	
				125					130					135	
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	
				140					145					150	
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	
				155					160					165	
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	
				170					175					180	
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	
				185					190					195	
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	
				200					205					210	
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	
				215					220					225	
Gln	Thr	Ser													

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttcctgg agaccctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntagcctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccaac 200  
 ggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

ctcagcggcg cttcctcgta gcgagcctag tggcgggtgt ttgcattgaa 50  
acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggc cggggcgtcc 150  
ggacgactgt atctgagccc cagactgcc cgagtttctg tcgcaggctg 200  
cgaggaaagg ccctaggtt gggctctgggt gcttggcggc ggcggttcc 250  
tccccgctcg tctccccgg gccagaggc acctcggtt cagtcagtgt 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
caacactgta catcctctgc cacatcttcc tgaccgcgtt caagaagcct 450  
gctgagttca ccacagtgga tgatgaagat gccaccgtca acaagattgc 500  
gctcgagctg tgcaccttta ccctggcaat tgccctgggt gctgtcctgc 550  
tcttgccctt ctccatcatc agcaatgagg tgetgctctc cctgcctcgg 600  
aactactaca tccagtggct caacggctcc ctcatccatg gcctctggaa 650  
ccttggtttt ctcttcccca acctgtccct catcttctc atgccctttg 700  
catatttctt cactgagtct gagggctttg ctggctccag aaagggtgtc 750  
ctgggcccgg tctatgagac agtggtgatg ttgatgctcc tcaactctgt 800  
ggctgtaggt atgggtgtgg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtcactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttctt tggggttctg ctgctcctgg tgtgtactcc 950  
actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
cccggctgct ggaagacctg gaggagcagc tgtactgctc agcctttgag 1050  
gaggcagccc tgaccgcgag gatctgtaat cctacttctt gctggctgcc 1100  
tttagacatg gagctgctac acagacaggt cctggctctg cagacacaga 1150  
gggtcctgct ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
ggctaccccc tggctatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
gctcattgtg gccatccaca tctggagct gctcatcgat gaggctgcca 1300  
tgccccgagg catgcagggt acctccttag gccaggctct cttctccaag 1350  
ctgggctcct ttggtgccgt cattcagggt gtactcatct ttacctaata 1400  
gggtgcctca gttgtgggct tctatagctc tccactcttc cggagcctgc 1450  
ggcccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500

tgtctcctgg tcctaagctc agcacttcct gtcttctctc gaaccctggg 1550  
gctcactcgc tttgacctgc tgggtgactt tggacgcttc aactggctgg 1600  
gcaatttcta catttgtgtc ctctacaacg cagcctttgc aggccctacc 1650  
acactctgtc tgggtgaagac cttcactgca gctgtgcggg cagagctgat 1700  
ccgggccttt gggctggaca gactgccgct gcccgctctcc ggtttcccc 1750  
aggcatctag gaagaccag caccagtgc ctccagctgg ggggtgggaag 1800  
gaaaaaactg gacactgcc tctgctgcct aggcctggag ggaagccaa 1850  
ggctacttgg acctcaggac ctggaatctg agagggtggg tggcagaggg 1900  
gagcagagcc atctgcaata ttgcataatc tgagccagag tttgggacca 1950  
ggacctcctg cttttccata cttaactgtg gcctcagcat ggggtagggc 2000  
tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggg 2150  
tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
tgtgctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

Met	Glu	Ala	Pro	Asp	Tyr	Glu	Val	Leu	Ser	Val	Arg	Glu	Gln	Leu
1				5					10					15
Phe	His	Glu	Arg	Ile	Arg	Glu	Cys	Ile	Ile	Ser	Thr	Leu	Leu	Phe
			20					25						30
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys
			35					40						45
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val
			50					55						60
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala
			65					70						75
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu
			80					85						90
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn
			95					100						105
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro
			110					115						120
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr

	125		130		135
Glu Ser Glu Gly	Phe Ala Gly Ser Arg	Lys Gly Val Leu Gly Arg			
	140	145			150
Val Tyr Glu Thr	Val Val Met Leu Met	Leu Leu Thr Leu Leu Val			
	155	160			165
Leu Gly Met Val	Trp Val Ala Ser Ala	Ile Val Asp Lys Asn Lys			
	170	175			180
Ala Asn Arg Glu	Ser Leu Tyr Asp Phe	Trp Glu Tyr Tyr Leu Pro			
	185	190			195
Tyr Leu Tyr Ser	Cys Ile Ser Phe Leu	Gly Val Leu Leu Leu Leu			
	200	205			210
Val Cys Thr Pro	Leu Gly Leu Ala Arg	Met Phe Ser Val Thr Gly			
	215	220			225
Lys Leu Leu Val	Lys Pro Arg Leu Leu	Glu Asp Leu Glu Glu Gln			
	230	235			240
Leu Tyr Cys Ser	Ala Phe Glu Glu Ala	Ala Leu Thr Arg Arg Ile			
	245	250			255
Cys Asn Pro Thr	Ser Cys Trp Leu Pro	Leu Asp Met Glu Leu Leu			
	260	265			270
His Arg Gln Val	Leu Ala Leu Gln Thr	Gln Arg Val Leu Leu Glu			
	275	280			285
Lys Arg Arg Lys	Ala Ser Ala Trp Gln	Arg Asn Leu Gly Tyr Pro			
	290	295			300
Leu Ala Met Leu	Cys Leu Leu Val Leu	Thr Gly Leu Ser Val Leu			
	305	310			315
Ile Val Ala Ile	His Ile Leu Glu Leu	Leu Ile Asp Glu Ala Ala			
	320	325			330
Met Pro Arg Gly	Met Gln Gly Thr Ser	Leu Gly Gln Val Ser Phe			
	335	340			345
Ser Lys Leu Gly	Ser Phe Gly Ala Val	Ile Gln Val Val Leu Ile			
	350	355			360
Phe Tyr Leu Met	Val Ser Ser Val Val	Gly Phe Tyr Ser Ser Pro			
	365	370			375
Leu Phe Arg Ser	Leu Arg Pro Arg Trp	His Asp Thr Ala Met Thr			
	380	385			390
Gln Ile Ile Gly	Asn Cys Val Cys Leu	Leu Val Leu Ser Ser Ala			
	395	400			405
Leu Pro Val Phe	Ser Arg Thr Leu Gly	Leu Thr Arg Phe Asp Leu			
	410	415			420
Leu Gly Asp Phe	Gly Arg Phe Asn Trp	Leu Gly Asn Phe Tyr Ile			
	425	430			435
Val Phe Leu Tyr	Asn Ala Ala Phe Ala	Gly Leu Thr Thr Leu Cys			

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val	Arg Ala Glu Leu Ile Arg	
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu	Pro Val Ser Gly Phe Pro	
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgccgag ggaaggcccc ttgggttggt cttggttgct tggcggcggc 50  
 ggnnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgcg agtgtattat atcaaacatt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttctga cccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcggtggt gcctgccett taagggcggg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgcgag gaaaggcccc 150  
 taggctgggt ctgggtgcttg gcggcggcgg cttcctcccc gttgtontcc 200  
 ccgggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatatc aacacttctg tttgcaacac tgtacatcnt 350  
 ctgccacatc ttctgaccc gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctoga gctgtgcacc 450

090929 1200





gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatatccttg aggttcagga 350  
 atctggagag tacagatgcc aggcccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttccctcatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcga agtaacactg 600  
 aataatacta tttaacaaga tgataatgtc ctggcattcc ttaataaaaag 650  
 aactgacttc caaaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccagggg gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcggcggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaaccat ggctccgcag aacctgagca ccttttgcct gttgctgcta 200  
 tacctcatcg gggcgggtgat tgccggacga gatttctata agatcttggg 250  
 ggtgcctcga agtgcctcta taaaggatat taaaaaggcc tataggaaac 300  
 tagccctgca gcttcatccc gaccggaacc ctgatgatcc acaagcccag 350  
 gagaaattcc aggatctggg tgctgcttat gaggttctgt cagatagtga 400  
 gaaacggaaa cagtacgata cttatggtga agaaggatta aaagatggtc 450  
 atcagagctc ccatggagac attttttcac acttctttgg ggattttggt 500  
 ttcatgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaagagg 550  
 aagtgatatt attgtagatc tagaagtcac tttggaagaa gtatatgcag 600  
 gaaattttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
 ggcaaacgga agtgcaattg tcggcaagag atgcggacca cccagctggg 700  
 ccctggggcg ttccaaatga cccaggaggt ggtctgcgac gaatgcccta 750  
 atgtcaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
 ggggtgagag acggcatgga gtaccccttt attggagaag gtgagcctca 850  
 cgtggatggg gagcctggag atttacgggt ccgaatcaaa gttgtcaagc 900  
 acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
 tcattagttg agtcactggt tggctttgag atggatatta ctacttggga 1000  
 tggtcacaag gtacatatct cccgggataa gatcaccagg ccaggagcga 1050  
 agctatggaa gaaaggggaa gggctcccca actttgacaa caacaatatc 1100  
 aagggctctt tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
 aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
 tgcagaaggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
 gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
 ttttgtgtgt gttttgttt ttattttcaa tatgcaagtt aggcttaatt 1350  
 tttttatcta atgatcatca tgaaatgaat aagagggctt aagaatttgt 1400  
 ccatttgcac tcggaaaaga atgaccagca aaagggttac taatacctct 1450  
 ccctttgggg atttaatgtc tgggtgctgcc gcctgagttt caagaattaa 1500  
 agctgcaaga ggactocagg agcaaaagaa acacaatata gagggttgga 1550  
 gttgttagca atttcattca aaatgccaac tggagaagtc tgtttttaaa 1600  
 tacattttgt tgttattttt a 1621

<210> 148  
 <211> 358  
 <212> PRT

<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr
1				5					10					15
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu
				20					25					30
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr
				35					40					45
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp
				50					55					60
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu
				65					70					75
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly
				80					85					90
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile
				95					100					105
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr
				110					115					120
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile
				125					130					135
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe
				140					145					150
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly
				155					160					165
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu
				170					175					180
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu
				185					190					195
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val
				200					205					210
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile
				215					220					225
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg
				230					235					240
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly
				245					250					255
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu
				260					265					270
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val
				275					280					285
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp
				290					295					300

Lys Lys Gly Glu Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys  
 305 310 315

Gly Ser Leu Ile Ile Thr Phe Asp Val Asp Phe Pro Lys Glu Gln  
 320 325 330

Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln  
 335 340 345

Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr  
 350 355

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445,  
 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccggtg ccccccggtg gagngcctaa caggccggtg 50  
 gntgcgaccg aagcggcggtg cggaggaggt tttgaggatt tttggaacag 100  
 gaccgagaca gaggaacctt ggttccgcag aacntgagca cnttttgcct 150  
 gttgntgnta tacttcatcg gggcggtgat tgccggacga gatttntata 200  
 agattttggg gtgcctngaa gtgccttnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtg atcagagctc ccatggagac attttttcac acttntttgg 450  
 ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcacgaggc ggcggggcag tcgcggggatg cgcccgggag ccacagcctg 50  
 aggcacctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
 ggtgctgggt tgcaaggcag gctactgccg gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagacccag 350  
tctgagccct ctgagttaga actggacgat gtcgttatca ccaacccccca 400  
cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
tcatgtoccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
aagcttggtt ccatgacaat gggctctggg gccaagatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggccaa gcggatcagc cccaggggtg 600  
atgatgttgt gaagtcgatg taccctccgt tggaccccaa actcctggac 650  
gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctggtgac 700  
aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
tgtcggctgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
gtctgcaatt tagtgacctac aggccagcag ctagccatga aggccctgc 900  
cgccatccct ggatggctca gcttagcctt ctactttttc ctatagagtt 950  
agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
taaaattaga atttctggcc tctctcgatc ggtcagaatg tgtggcaatt 1250  
ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
tgtattatct gcctggctcc tgaggcgtct gggctctctcc tctcccttgc 1400  
aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151  
<211> 226  
<212> PRT  
<213> Homo sapiens

<400> 151  
Met Glu Thr Val Val Ile Val Ala Ile Gly Val Leu Ala Thr Ile  
1 5 10 15  
Phe Leu Ala Ser Phe Ala Ala Leu Val Leu Val Cys Arg Gln Arg  
20 25 30  
Tyr Cys Arg Pro Arg Asp Leu Leu Gln Arg Tyr Asp Ser Lys Pro



atttgtagtc cttattgggtt ggcctttgat aggcatgac ttcgaaattt 350  
atggattttt tctcttggtc aggggcttct ttcctgtcgt tgttggcttt 400  
attagaagag tgccagtcct tggatccctc ctaaattttac ctggaattag 450  
atcatttgta gataaagttg gagaaagcaa caatatggta taacaacaag 500  
tgaatttgaa gactcattta aaatattgtg ttattttataa agtcatttga 550  
agaatattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
tacaggagtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
caagcaaact gagagagggtg aaatccatgt taatgatgct taagaaactc 750  
ttgaaggcta tttgtgttgt ttttccacaa tgtgcgaaac tcagccatcc 800  
ttagagaact gtgggtgcctg tttcttttct ttttattttg aagggtcagg 850  
agcatccata ggcatttgct ttttagaagt gtccactgca atggcaaaaa 900  
tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
ttgtgtcatt ttaaagtatt aaaaccaagg aaaccccaat tttgatgtat 1000  
ggattacttt tttttgngcn cagggcc 1027

<210> 153  
<211> 138  
<212> PRT  
<213> Homo sapiens

<220>  
<221> N-myristoylation Sites  
<222> 11-16, 51-56 and 116-121  
<223> N-myristoylation Sites.

<220>  
<221> Transmembrane domains  
<222> 12-30, 33-52, 69-89 and 93-109  
<223> Transmembrane domains

<220>  
<221> Aminoacyl-transfer RNA Synthetases.  
<222> 49-59  
<223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
Met Ile Ser Leu Thr Asp Thr Gln Lys Ile Gly Met Gly Leu Thr  
1 5 10 15  
Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
20 25 30  
Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
35 40 45  
Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
50 55 60



[illegible]

```
<220>  
<221> unsure  
<222> 66  
<223> unknown base
```

```
<210> 155
<211> 1781
<212> DNA
<213> Homo sapiens
```

133

caacaccatt cagctcttca ctctcctcct ctggcccatt aacaagcagc 300  
 tcttccggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtgggtg gtcggggcacg gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtgggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggtcctg gccaaagaaag agctggccta 550  
 tgtcccaatt atcggctgga tgtgttactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcagggtg gcccgggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggcttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtcctaa 900  
 acggaaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgtctg gcctggctgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttcc 1050  
 cagagacgcc catggtgccc ccccggcggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtgtgt gctctaccct ttcttccagt tcctggtcag 1150  
 catgatcagg agcgggtctt cctgacgct ggccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgtatga tgatttgtgt gacggaaatt 1250  
 gacaagggct ctgcctacgg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
 cctctgcata tcctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
 tcaaggcccg atggggagga agatgttttg taatcttttt ttccccatgt 1500  
 gcttttagtg gcttttggtt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag ttcccctttc 1650  
 atccttttgt gctgagtttt ctgtaaccct tggttgccag agataaagt 1700  
 aaaagtgctt taggtgagat gactaaatta tgctccaag aaaaaaaaaa 1750  
 taaagtgctt ttctgggtca aaaaaaaaaa a 1781

<210> 156

[illegible]

135

	290		295		300
Pro Pro Arg Arg	Pro Trp Thr Leu Val	Asn Trp Leu Phe Trp	Ala		
	305	310	315		
Ser Leu Val Leu	Tyr Pro Phe Phe Gln	Phe Leu Val Ser Met	Ile		
	320	325	330		
Arg Ser Gly Ser	Ser Leu Thr Leu Ala	Ser Phe Ile Leu Val	Phe		
	335	340	345		
Phe Val Ala Ser	Val Gly Val Arg Trp	Met Ile Gly Val Thr	Glu		
	350	355	360		
Ile Asp Lys Gly	Ser Ala Tyr Gly Asn	Ser Asp Ser Lys Gln	Lys		
	365	370	375		
Leu Asn Asp					

<210> 157  
 <211> 1849  
 <212> DNA  
 <213> Homo sapiens

<400> 157  
 ctgaggcggc ggtagcatgg agggggagag tacgtcggcg gtgctctcgg 50  
 gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100  
 acggaagggt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
 tactgattcc caaatggatg atgttgaagt tgtttataca attgacattc 200  
 agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250  
 gaagtaaatg agcaagcact gaagaaaata ttatcaaagt tcaaaaagaa 300  
 tgtggtaggt tggtaaaaat tccgtcgtca ttcagatcag atcatgacgt 350  
 ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400  
 gaccttgctt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
 tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
 acagggtacc tttagtgggt gccaatctgg gcatgtctga acaactgggt 550  
 tataaaactg tatcagggtc ctgtatgtcc actgggtttta gccgagcagt 600  
 acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650  
 tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
 atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750  
 ggatgtaaac agattaaaac gagaaattga gaaaaggaga ggagcacaga 800  
 ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850  
 tttctttgtc aggcattacg gacctttttt ccaaattctg aatttcttca 900  
 ttcatgtgtt atgtctttta aaaatagaca tgtttctaaa agtagctgta 950

actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000  
 cacttgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050  
 gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggt 1100  
 tgttagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
 caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
 aaagatgaag ggttttggtg aatattcacg gtctcctaca ttttgatcct 1250  
 tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
 atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
 tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcat 1400  
 ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450  
 tttttttcac ctttcactaa gttgttgagg ggaaggotta cacagacaca 1500  
 ttcttttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
 tcccagcact tagggaagac aagtcaggag gattgattga agctaggagt 1600  
 tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
 atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
 tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
 aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800  
 aaatttgcaa aacatcatct aaaattttaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
 <211> 409  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
 Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu  
     1                    5                    10                    15  
 Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu  
                     20                    25                    30  
 Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
                     35                    40                    45  
 Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
                     50                    55                    60  
 Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
                     65                    70                    75  
 Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
                     80                    85                    90  
 Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
                     95                    100                    105

Ser	Asp	Gln	Ile	Met	Thr	Phe	Arg	Glu	Arg	Leu	Leu	His	Lys	Asn	
				110					115					120	
Leu	Gln	Glu	His	Phe	Ser	Asn	Gln	Asp	Leu	Val	Phe	Leu	Leu	Leu	
				125					130					135	
Thr	Pro	Ser	Ile	Ile	Thr	Glu	Ser	Cys	Ser	Thr	His	Arg	Leu	Glu	
				140					145					150	
His	Ser	Leu	Tyr	Lys	Pro	Gln	Lys	Gly	Leu	Phe	His	Arg	Val	Pro	
				155					160					165	
Leu	Val	Val	Ala	Asn	Leu	Gly	Met	Ser	Glu	Gln	Leu	Gly	Tyr	Lys	
				170					175					180	
Thr	Val	Ser	Gly	Ser	Cys	Met	Ser	Thr	Gly	Phe	Ser	Arg	Ala	Val	
				185					190					195	
Gln	Thr	His	Ser	Ser	Lys	Phe	Phe	Glu	Glu	Asp	Gly	Ser	Leu	Lys	
				200					205					210	
Glu	Val	His	Lys	Ile	Asn	Glu	Met	Tyr	Ala	Ser	Leu	Gln	Glu	Glu	
				215					220					225	
Leu	Lys	Ser	Ile	Cys	Lys	Lys	Val	Glu	Asp	Ser	Glu	Gln	Ala	Val	
				230					235					240	
Asp	Lys	Leu	Val	Lys	Asp	Val	Asn	Arg	Leu	Lys	Arg	Glu	Ile	Glu	
				245					250					255	
Lys	Arg	Arg	Gly	Ala	Gln	Ile	Gln	Ala	Ala	Arg	Glu	Lys	Asn	Ile	
				260					265					270	
Gln	Lys	Asp	Pro	Gln	Glu	Asn	Ile	Phe	Leu	Cys	Gln	Ala	Leu	Arg	
				275					280					285	
Thr	Phe	Phe	Pro	Asn	Ser	Glu	Phe	Leu	His	Ser	Cys	Val	Met	Ser	
				290					295					300	
Leu	Lys	Asn	Arg	His	Val	Ser	Lys	Ser	Ser	Cys	Asn	Tyr	Asn	His	
				305					310					315	
His	Leu	Asp	Val	Val	Asp	Asn	Leu	Thr	Leu	Met	Val	Glu	His	Thr	
				320					325					330	
Asp	Ile	Pro	Glu	Ala	Ser	Pro	Ala	Ser	Thr	Pro	Gln	Ile	Ile	Lys	
				335					340					345	
His	Lys	Ala	Leu	Asp	Leu	Asp	Asp	Arg	Trp	Gln	Phe	Lys	Arg	Ser	
				350					355					360	
Arg	Leu	Leu	Asp	Thr	Gln	Asp	Lys	Arg	Ser	Lys	Ala	Asn	Thr	Gly	
				365					370					375	
Ser	Ser	Asn	Gln	Asp	Lys	Ala	Ser	Lys	Met	Ser	Ser	Pro	Glu	Thr	
				380					385					390	
Asp	Glu	Glu	Ile	Glu	Lys	Met	Lys	Gly	Phe	Gly	Glu	Tyr	Ser	Arg	
				395					400					405	
Ser	Pro	Thr	Phe												

<210> 159  
 <211> 2651  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
 ggcacagccg cgcgggcgag ggcagagtca gccgagccga gtccagccgg 50  
 acgagcggac cagcgcaggg cagcccaagc agcgcgcagc gaacgcccgc 100  
 cgccgcccac accctctgcg gtccccgcgg cgctgccac ccttccctcc 150  
 ttccccgcgt ccccgctcg ccggccagtc agcttgccgg gttegtgcc 200  
 ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggcccgc 250  
 cgccgcctcc acgccctcct tctccctgg ccggcgccct ggcaccgggg 300  
 accgttgccct gacgcgaggc ccagctctac ttttcgcccc gcgtctcttc 350  
 cgctgctcg cctcttccac caactccaac tccttctccc tccagctcca 400  
 ctgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
 ttcccgctccg gtcccaaagg tgggaacgcg tccgccccgg ccgcacccat 500  
 ggcacggttc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550  
 ccgcgctgct ggctgccgag ctcaagtcca aaagttgctc ggaagtgcga 600  
 cgtctttacg tgtccaaagg cttcaacaag aacgatgccc ccctccacga 650  
 gatcaacggg gatcatttga agatctgtcc ccagggttct acctgctgct 700  
 ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
 agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
 ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850  
 aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900  
 aattctgagc tattttaaaga tctcttogta gagttgaaac gttactacgt 950  
 ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000  
 tcctggagcg gatgttccgc ctggtgaact ccagtagcca ctttacagat 1050  
 gagtatctgg aatgtgtgag caagtatacg gagcagctga agcccttcgg 1100  
 agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
 cccgtacttt cgctcaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
 gtctccgtgg taaaccccac agcccagtg acccatgccc tgttgaagat 1250  
 gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
 actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
 gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
 gctagagggt cctttcaaca ttgaatcgg catggatccc atcgatgtga 1450

agatttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500  
 cagaagggtt tccagggatg tggaccccc aagcccctcc cagctggacg 1550  
 aatttctcgt tccatctctg aaagtgcctt cagtgtctgc ttcagaccac 1600  
 atcaccccca ggaacgcccc accacagcag ctggcactag tttggaccga 1650  
 ctggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700  
 ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaacg 1750  
 gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800  
 gcagtgcag gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850  
 ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900  
 ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
 gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000  
 ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050  
 atgctgggaa gagtgccaat gagaaagccg acagtgtctg tgtccgtcct 2100  
 ggggcacagg cctacctcct cactgtcttc tgcatcttgt tcttggttat 2150  
 gcagagagag tggagataat tctcaaactc tgagaaaaag tgttcatcaa 2200  
 aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250  
 tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
 tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
 actgtgcatt gagttggttc ctgctcccc aaacatgtt aaacgtggct 2400  
 aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450  
 ctctattatt tgtttgtatg tttttttctc atttcgtttg tgggtttttt 2500  
 tttccaactg tgatctcgcc ttgtttctta caagcaaacc agggtcctct 2550  
 ctgggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
 agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650

c 2651

<210> 160

<211> 556

<212> PRT

<213> Homo sapiens

<400> 160

Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
 1 5 10 15

Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
 20 25 30

Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



35										40					45				
Asp	Ala	Pro	Leu	His	Glu	Ile	Asn	Gly	Asp	His	Leu	Lys	Ile	Cys					
				50					55					60					
Pro	Gln	Gly	Ser	Thr	Cys	Cys	Ser	Gln	Glu	Met	Glu	Glu	Lys	Tyr					
				65					70					75					
Ser	Leu	Gln	Ser	Lys	Asp	Asp	Phe	Lys	Ser	Val	Val	Ser	Glu	Gln					
				80					85					90					
Cys	Asn	His	Leu	Gln	Ala	Val	Phe	Ala	Ser	Arg	Tyr	Lys	Lys	Phe					
				95					100					105					
Asp	Glu	Phe	Phe	Lys	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu					
				110					115					120					
Asn	Asp	Met	Phe	Val	Lys	Thr	Tyr	Gly	His	Leu	Tyr	Met	Gln	Asn					
				125					130					135					
Ser	Glu	Leu	Phe	Lys	Asp	Leu	Phe	Val	Glu	Leu	Lys	Arg	Tyr	Tyr					
				140					145					150					
Val	Val	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp					
				155					160					165					
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Arg	Leu	Val	Asn	Ser	Gln	Tyr					
				170					175					180					
His	Phe	Thr	Asp	Glu	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Glu					
				185					190					195					
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Leu	Gln					
				200					205					210					
Val	Thr	Arg	Ala	Phe	Val	Ala	Ala	Arg	Thr	Phe	Ala	Gln	Gly	Leu					
				215					220					225					
Ala	Val	Ala	Gly	Asp	Val	Val	Ser	Lys	Val	Ser	Val	Val	Asn	Pro					
				230					235					240					
Thr	Ala	Gln	Cys	Thr	His	Ala	Leu	Leu	Lys	Met	Ile	Tyr	Cys	Ser					
				245					250					255					
His	Cys	Arg	Gly	Leu	Val	Thr	Val	Lys	Pro	Cys	Tyr	Asn	Tyr	Cys					
				260					265					270					
Ser	Asn	Ile	Met	Arg	Gly	Cys	Leu	Ala	Asn	Gln	Gly	Asp	Leu	Asp					
				275					280					285					
Phe	Glu	Trp	Asn	Asn	Phe	Ile	Asp	Ala	Met	Leu	Met	Val	Ala	Glu					
				290					295					300					
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile					
				305					310					315					
Asp	Val	Lys	Ile	Ser	Asp	Ala	Ile	Met	Asn	Met	Gln	Asp	Asn	Ser					
				320					325					330					
Val	Gln	Val	Ser	Gln	Lys	Val	Phe	Gln	Gly	Cys	Gly	Pro	Pro	Lys					
				335					340					345					
Pro	Leu	Pro	Ala	Gly	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala					

	350		355		360
Phe Ser Ala Arg	Phe Arg Pro His His	Pro Glu Glu Arg Pro Thr			
	365	370			375
Thr Ala Ala Gly	Thr Ser Leu Asp Arg	Leu Val Thr Asp Val Lys			
	380	385			390
Glu Lys Leu Lys	Gln Ala Lys Lys Phe	Trp Ser Ser Leu Pro Ser			
	395	400			405
Asn Val Cys Asn	Asp Glu Arg Met Ala	Ala Gly Asn Gly Asn Glu			
	410	415			420
Asp Asp Cys Trp	Asn Gly Lys Gly Lys	Ser Arg Tyr Leu Phe Ala			
	425	430			435
Val Thr Gly Asn	Gly Leu Ala Asn Gln	Gly Asn Asn Pro Glu Val			
	440	445			450
Gln Val Asp Thr	Ser Lys Pro Asp Ile	Leu Ile Leu Arg Gln Ile			
	455	460			465
Met Ala Leu Arg	Val Met Thr Ser Lys	Met Lys Asn Ala Tyr Asn			
	470	475			480
Gly Asn Asp Val	Asp Phe Phe Asp Ile	Ser Asp Glu Ser Ser Gly			
	485	490			495
Glu Gly Ser Gly	Ser Gly Cys Glu Tyr	Gln Gln Cys Pro Ser Glu			
	500	505			510
Phe Asp Tyr Asn	Ala Thr Asp His Ala	Gly Lys Ser Ala Asn Glu			
	515	520			525
Lys Ala Asp Ser	Ala Gly Val Arg Pro	Gly Ala Gln Ala Tyr Leu			
	530	535			540
Leu Thr Val Phe	Cys Ile Leu Phe Leu	Val Met Gln Arg Glu Trp			
	545	550			555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aaccccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgccctca aatgggaacg ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattgggtc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcgcc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacatttctc 550  
gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600  
actctccac tgtaccaccc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg ttgtgtgtc tctctagtgt cttcttctct 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaaact gtagcttcct agctagtgtc atttaacctt 800  
aatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttgggtcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
 ggacgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50  
 ggaagcacag ctcagagctg gtctgccatg gacatcctgg tcccactcct 100  
 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcaggggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctcttgagga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
 ggagggtccg agagtactga gacogggagg tgtgctcttt ttctgggagc 600  
 atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
 gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg ccagtttctc cgaaatccaa atggaacgac 750  
 agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
 cagcctccaa ttagaacaag ccaccacca gcctatctat cttccactga 900  
 gagggacctc gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tccgccttc 1000  
 gacagtgaaa aagctctact tctacgctga cccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttcgttc ccatggtaaa gctcctctcg 1150  
ctttcctcct gaggctacac ccatgctgtct ctaggaactg gtcacaaaag 1200  
tcatggtgcc tgcattccctg ccaagcccc ctgacctct ctccccacta 1250  
ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350  
taataaatag acgaaaccac g 1371

<210> 169  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 169

Met	Asp	Ile	Leu	Val	Pro	Leu	Leu	Gln	Leu	Leu	Val	Leu	Leu	Leu	1	5	10	15
Thr	Leu	Pro	Leu	His	Leu	Met	Ala	Leu	Leu	Gly	Cys	Trp	Gln	Pro	20	25	30	
Leu	Cys	Lys	Ser	Tyr	Phe	Pro	Tyr	Leu	Met	Ala	Val	Leu	Thr	Pro	35	40	45	
Lys	Ser	Asn	Arg	Lys	Met	Glu	Ser	Lys	Lys	Arg	Glu	Leu	Phe	Ser	50	55	60	
Gln	Ile	Lys	Gly	Leu	Thr	Gly	Ala	Ser	Gly	Lys	Val	Ala	Leu	Leu	65	70	75	
Glu	Leu	Gly	Cys	Gly	Thr	Gly	Ala	Asn	Phe	Gln	Phe	Tyr	Pro	Pro	80	85	90	
Gly	Cys	Arg	Val	Thr	Cys	Leu	Asp	Pro	Asn	Pro	His	Phe	Glu	Lys	95	100	105	
Phe	Leu	Thr	Lys	Ser	Met	Ala	Glu	Asn	Arg	His	Leu	Gln	Tyr	Glu	110	115	120	
Arg	Phe	Val	Val	Ala	Pro	Gly	Glu	Asp	Met	Arg	Gln	Leu	Ala	Asp	125	130	135	
Gly	Ser	Met	Asp	Val	Val	Val	Cys	Thr	Leu	Val	Leu	Cys	Ser	Val	140	145	150	
Gln	Ser	Pro	Arg	Lys	Val	Leu	Gln	Glu	Val	Arg	Arg	Val	Leu	Arg	155	160	165	
Pro	Gly	Gly	Val	Leu	Phe	Phe	Trp	Glu	His	Val	Ala	Glu	Pro	Tyr	170	175	180	
Gly	Ser	Trp	Ala	Phe	Met	Trp	Gln	Gln	Val	Phe	Glu	Pro	Thr	Trp	185	190	195	
Lys	His	Ile	Gly	Asp	Gly	Cys	Cys	Leu	Thr	Arg	Glu	Thr	Trp	Lys	200	205	210	
Asp	Leu	Glu	Asn	Ala	Gln	Phe	Ser	Glu	Ile	Gln	Met	Glu	Arg	Gln	215	220	225	

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
 230 235 240

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
 245 250 255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
 260 265 270

Tyr Leu Pro Leu Arg Gly Thr  
 275

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggattta tttgagtga agatcgtttt ctcagtgggtg gtggaagttg 50  
 cctcatcgca ggcagatgtt ggggctttgt ccgaacagct cccctctgcc 100  
 agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctcagcttga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca aactcgctc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gttaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
 taacctttgc aaggttctac ttgccaatc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caaggtgata ttcttgccct 700  
 ttacaataca gcactgaagc caggacatgc agctgcattt tcagaagatt 750  
 gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gttgcaaacc 900  
 tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
 cacaacacct cctctgttta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc caccttggtt ccagtgtctg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatgg 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctcaaaca taaagtgaag cagaatttga actgtaagca agcatttctc 1300  
aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
taaataaaac ttacattttt c 1621

<210> 171

<211> 371

<212> PRT

<213> Homo sapiens

<400> 171

Met	Ser	Phe	Arg	Lys	Val	Asn	Ile	Ile	Ile	Leu	Val	Leu	Ala	Val
1				5					10					15
Ala	Leu	Phe	Leu	Leu	Val	Leu	His	His	Asn	Phe	Leu	Ser	Leu	Ser
				20					25					30
Ser	Leu	Leu	Arg	Asn	Glu	Val	Thr	Asp	Ser	Gly	Ile	Val	Gly	Pro
				35					40					45
Gln	Pro	Ile	Asp	Phe	Val	Pro	Asn	Ala	Leu	Arg	His	Ala	Val	Asp
				50					55					60
Gly	Arg	Gln	Glu	Glu	Ile	Pro	Val	Val	Ile	Ala	Ala	Ser	Glu	Asp
				65					70					75
Arg	Leu	Gly	Gly	Ala	Ile	Ala	Ala	Ile	Asn	Ser	Ile	Gln	His	Asn
				80					85					90
Thr	Arg	Ser	Asn	Val	Ile	Phe	Tyr	Ile	Val	Thr	Leu	Asn	Asn	Thr
				95					100					105
Ala	Asp	His	Leu	Arg	Ser	Trp	Leu	Asn	Ser	Asp	Ser	Leu	Lys	Ser
				110					115					120
Ile	Arg	Tyr	Lys	Ile	Val	Asn	Phe	Asp	Pro	Lys	Leu	Leu	Glu	Gly
				125					130					135
Lys	Val	Lys	Glu	Asp	Pro	Asp	Gln	Gly	Glu	Ser	Met	Lys	Pro	Leu
				140					145					150
Thr	Phe	Ala	Arg	Phe	Tyr	Leu	Pro	Ile	Leu	Val	Pro	Ser	Ala	Lys
				155					160					165
Lys	Ala	Ile	Tyr	Met	Asp	Asp	Asp	Val	Ile	Val	Gln	Gly	Asp	Ile
				170					175					180
Leu	Ala	Leu	Tyr	Asn	Thr	Ala	Leu	Lys	Pro	Gly	His	Ala	Ala	Ala



	185		190		195
Phe Ser Glu Asp	Cys Asp Ser Ala Ser	Thr Lys Val Val Ile Arg			
	200		205		210
Gly Ala Gly Asn	Gln Tyr Asn Tyr Ile	Gly Tyr Leu Asp Tyr Lys			
	215		220		225
Lys Glu Arg Ile	Arg Lys Leu Ser Met	Lys Ala Ser Thr Cys Ser			
	230		235		240
Phe Asn Pro Gly	Val Phe Val Ala Asn	Leu Thr Glu Trp Lys Arg			
	245		250		255
Gln Asn Ile Thr	Asn Gln Leu Glu Lys	Trp Met Lys Leu Asn Val			
	260		265		270
Glu Glu Gly Leu	Tyr Ser Arg Thr Leu	Ala Gly Ser Ile Thr Thr			
	275		280		285
Pro Pro Leu Leu	Ile Val Phe Tyr Gln	Gln His Ser Thr Ile Asp			
	290		295		300
Pro Met Trp Asn	Val Arg His Leu Gly	Ser Ser Ala Gly Lys Arg			
	305		310		315
Tyr Ser Pro Gln	Phe Val Lys Ala Ala	Lys Leu Leu His Trp Asn			
	320		325		330
Gly His Leu Lys	Pro Trp Gly Arg Thr	Ala Ser Tyr Thr Asp Val			
	335		340		345
Trp Glu Lys Trp	Tyr Ile Pro Asp Pro	Thr Gly Lys Phe Asn Leu			
	350		355		360
Ile Arg Arg Tyr	Thr Glu Ile Ser Asn	Ile Lys			
	365		370		

<210> 172  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 71, 76, 86, 91, 162, 220, 269, 281  
 <223> unknown base

<400> 172  
 tgggtttttgc cccataaatt ccctcagctt gagcagtttg ttaaggaatg 50  
 aggttacaga ttcaggaatt ntaggnctc aacctntaga ntttgtccca 100  
 aatgtttctcc gacatgcagt agatgggaga caagaggaga ttcctgtggt 150  
 catcgctgca tntgaagaca ggcttggggg ggccattgca gctataaaca 200  
 gcattcagca caacactcgn tccaatgtga ttttctacat tgttactctc 250  
 aacaatacag cagaccatnt ccggtcctgg ntcaacagtg attccctgaa 300  
 aagcatcaga tacaaaattg tcaattttga ccctaaaactt ttggaaggaa 350

[illegible][illegible][illegible]

accctggctg gtagcatcac aacacctcct ctgcttatcg tattttatca 1250  
acagcactct accatcgatc ctatgtggaa tgtccgccac cttgggtcca 1300  
gtgctggaaa acgatattca cctcagtttg taaaggctgc caagttactc 1350  
cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
tgtttgggga aaaatggtat attccagacc caacaggcaa attcaaccta 1450  
atccgaagat ataccgagat ctcaaacata aagtgaaaca gaatttgaac 1500  
tgtaagcaag cattttctcag gaagtcctgg aagatagcat gcgtgggaag 1550  
taacagttgc taggcttcaa tgcctatcgg tagcaagcca tggaaaaaga 1600  
tgtgtcagct aggtaaagat gacaaactgc cctgtctggc agtcagcttc 1650  
ccagacagac tatagactat aaatatgtct ccatctgcct taccaagtgt 1700  
tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
tcagctagct ggtacagata attcaaaact gctgttggtt ttaattttgt 1800  
aacctgtggc ctgatctgta aataaaactt acatttttca ataggtaaaa 1850  
aaaaaaaaa aaaaaa 1866

<210> 174  
<211> 823  
<212> DNA  
<213> Homo sapiens

<400> 174  
ctgcaggtag acatctccac tgcccaggaa tcaactgagcg tgcagacagc 50  
acagcctcct ctgaaggccg gccataccag agtcctgcct cggcatgggc 100  
ctcaccattg aggagctcc actgtctgtg ctggctctgag ggtgctgcct 150  
gtcatggggg cagccatctc ccaggggggc ctcatcgcca tcgtctgcaa 200  
cggctctcgtg ggctttctgc tgctgctgct ctgggtcatc ctctgctggg 250  
cctgccattc tcgtctgcgc acgttgactc tctctctgaa tccagtccca 300  
actccagccc tggcccctgt cctgagaagg cccaccacc ccagaagccc 350  
agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
tggagcccag gacctaatc cacctcacct agagcctgga attaggatcc 450  
cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttgga 500  
gctggacca gggcccaga gtctagccag cttggctcca ataggagctc 550  
agtggcccta aggagatggg cctggggtgg gggcttatga gttggtgcta 600  
gagccagggc catctggact atgtccatc ccaagggccca agggtcaggg 650  
gccgggtcca ctotttccct aggctgagca cctctaggcc ctctaggttg 700  
gggaagcaaa ctggaacca tggcaataat aggaggggtgt ccaggctggg 750

ccccccccct ggtcctccca gtgtttgctg gataataaat ggaactatgg 800

ctctaaaaaa aaaaaaaaaa aaa 823

<210> 175

<211> 87

<212> PRT

<213> Homo sapiens

<400> 175

Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys  
1 5 10 15

Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
20 25 30

Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45

Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60

His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
65 70 75

Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<210> 176

<211> 1660

<212> DNA

<213> Homo sapiens

<400> 176

gtttgaattc cttcaactat acccacagtc caaaagcaga ctactgtgt 50

cccaggctac cagttcctcc aagcaagtca tttcccttat ttaaccgatg 100

tgtccctcaa acacctgagt gctactccct atttgcatct gttttgataa 150

atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200

gatacaatcc ttggcctgtg taccctcgca ttagccttgt ctttggccat 250

gatgtttacc ttcagattca tcaccaccct tctgggtcac attttcattt 300

cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350

tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400

aaatatgaag tgogtgctgg ggtttgctat cgtatccaca ggcacacagg 450

cagtgtgtct cgtcttgatt ttgtttctca gaaagagaat aaaattgaca 500

gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550

gctgttccag ccaactgtgga catttgccat cctcattttc ttctgggtcc 600

tctgggtggc tgtgtgtgtg agcctgggaa ctgcaggagc tgcccagggt 650

atggaaggcg gccaaagtga atataagccc ctttcgggca ttcggtacat 700

gtggtcgtac catttaattg gcctcatctg gactagtga ttcacacctg 750

cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850  
 tctcttcttc taccatcaag gaaccgttgt gaaaggggtca tttttaatct 900  
 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950  
 aaagaacagc agcatggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgtcttg acaaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150  
 ctgcttttga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200  
 tcaactgtttt tggaggactc atggctttta actacaatcg ggcattccag 1250  
 gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
 gttttgctgt tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400  
 tttatggatc aagaatttct gagtttcgta aaaaggagca acaaattaa 1450  
 caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500  
 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
 ggaaaacatt tccttctaag agccatttac agaatagaag atgagaccac 1600  
 tagagaaaag ttagtgaatt tttttttaa agacctaata aaccctattc 1650  
 ttcctcaaaa 1660

<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
 Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu  
 1 5 10 15  
 Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr  
 20 25 30  
 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

	95	100	105
Glu Leu Phe Gln	Ile Thr Asn Lys Ala 110	Ile Ser Ser Ala Pro 115	Phe 120
Leu Leu Phe Gln	Pro Leu Trp Thr Phe 125	Ala Ile Leu Ile Phe 130	Phe 135
Trp Val Leu Trp	Val Ala Val Leu Leu 140	Ser Leu Gly Thr Ala 145	Gly 150
Ala Ala Gln Val	Met Glu Gly Gly Gln 155	Val Glu Tyr Lys Pro 160	Leu 165
Ser Gly Ile Arg	Tyr Met Trp Ser Tyr 170	His Leu Ile Gly Leu 175	Ile 180
Trp Thr Ser Glu	Phe Ile Leu Ala Cys 185	Gln Gln Met Thr Ile 190	Ala 195
Gly Ala Val Val	Thr Cys Tyr Phe Asn 200	Arg Ser Lys Asn Asp 205	Pro 210
Pro Asp His Pro	Ile Leu Ser Ser Leu 215	Ser Ile Leu Phe Phe 220	Tyr 225
His Gln Gly Thr	Val Val Lys Gly Ser 230	Phe Leu Ile Ser Val 235	Val 240
Arg Ile Pro Arg	Ile Ile Val Met Tyr 245	Met Gln Asn Ala Leu 250	Lys 255
Glu Gln Gln His	Gly Ala Leu Ser Arg 260	Tyr Leu Phe Arg Cys 265	Cys 270
Tyr Cys Cys Phe	Trp Cys Leu Asp Lys 275	Tyr Leu Leu His Leu 280	Asn 285
Gln Asn Ala Tyr	Thr Thr Thr Ala Ile 290	Asn Gly Thr Asp Phe 295	Cys 300
Thr Ser Ala Lys	Asp Ala Phe Lys Ile 305	Leu Ser Lys Asn Ser 310	Ser 315
His Phe Thr Ser	Ile Asn Cys Phe Gly 320	Asp Phe Ile Ile Phe 325	Leu 330
Gly Lys Val Leu	Val Val Cys Phe Thr 335	Val Phe Gly Gly Leu 340	Met 345
Ala Phe Asn Tyr	Asn Arg Ala Phe Gln 350	Val Trp Ala Val Pro 355	Leu 360
Leu Leu Val Ala	Phe Phe Ala Tyr Leu 365	Val Ala His Ser Phe 370	Leu 375
Ser Val Phe Glu	Thr Val Leu Asp Ala 380	Leu Phe Leu Cys Phe 385	Ala 390
Val Asp Leu Glu	Thr Asn Asp Gly Ser 395	Ser Glu Lys Pro Tyr 400	Phe 405
Met Asp Gln Glu	Phe Leu Ser Phe Val 410	Lys Arg Ser Asn Lys 415	Leu 420

	410		415		420
Asn Asn Ala Arg	Ala Gln Gln Asp Lys	His Ser Leu Arg	Asn Glu		
	425		430		435
Glu Gly Thr Glu	Leu Gln Ala Ile Val	Arg			
	440		445		

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
 gttcgattag ctctcttgag aagaagagaa aaggttcttg gacctctccc 50  
 tgtttcttcc ttagaataat ttgtatggga tttgtgatgc aggaaagcct 100  
 aagggaaaaa gaattattcat tctgtgtggt gaaaattttt tgaaaaaaa 150  
 attgccttct tcaaacaagg gtgtcattct gatatttatg aggactgttg 200  
 ttctcactat gaaggcatct gttattgaaa tgttccttgt tttgctggtg 250  
 actggagtac attcaaaca agaacggca aagaagatta aaaggcccaa 300  
 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350  
 atcctgagtt cattgtgaaa tgtccagcag gatgccaga ccccaaatac 400  
 catgtttatg gactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450  
 tgccgtacac agtgggtgtg ttgataattc aggagggaaa atacttggtc 500  
 ggaagggttg tggacagtct ggttacaaag ggagttattc caacgggtgtc 550  
 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaag 600  
 taaacccaaa aagggtgtaa cctacccatc agctottaca tactcatcat 650  
 cgaaaagtcc agctgccccaa gcaggtgaga ccacaaaagc ctatcagagg 700  
 ccacctattc cagggacaac tgcacagccg gtcactctga tgcagcttct 750  
 ggctgtcact gtagctgtgg ccacccccac caccttgcca aggccatccc 800  
 cttctgctgc ttctaccacc agcatcccca gaccacaatc agtgggccac 850  
 aggagccagg agatggatct ctggtccact gccacctaca caagcagcca 900  
 aaacaggccc agagctgatc caggtatcca aaggcaagat ccttcaggag 950  
 ctgccttcca gaaacctgtt ggagcggatg tcagcctggg acttggtcca 1000  
 aaagaagaat tgagcacaca gtctttggag ccagtatccc tgggagatcc 1050  
 aaactgcaaa attgacttgt cgtttttaat tgatgggagc accagcattg 1100  
 gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgccccaa 1150  
 gctcttgaca ttggccctgc cggtcactg atgggtgttg tccagtatgg 1200  
 agacaaccct gctactcact ttaacctcaa gacacacacg aattctcgag 1250

atctgaagac agccatagag aaaattactc agagaggagg acttttcta 1300  
 gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350  
 tggaaacaga agcgggggctc ccaatgtggt ggtggtgatg gtggatggct 1400  
 ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtcagga 1450  
 atcaacattt tcttcatcac cattgaaggt gctgctgaaa atgagaagca 1500  
 gtatgtggtg gagcccaact ttgcaaacia ggccgtgtgc agaaciaaacg 1550  
 gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600  
 cagcctctgg tgaagcgggt ctgcgacact gaccgcctgg cctgcagcaa 1650  
 gacctgcttg aactcggctg acattggctt cgtcatcgac ggctccagca 1700  
 gtgtggggac gggcaacttc cgcaccgtcc tccagtttgt gaccaacctc 1750  
 accaaagagt ttgagatttc cgacacggac acgcgcacgc gggccgtgca 1800  
 gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850  
 agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtgggtggc 1900  
 accagcacgg gggctgccat caacttcgcc ctggagcagc tcttcaagaa 1950  
 gtccaagccc aacaagagga agttaatgat cctcatcaac gacgggaggt 2000  
 cctacgacga cgtccggatc ccagccatgg ctgcccacat gaagggagtg 2050  
 atcacctatg cgataggcgt tgcctgggct gcccaagagg agctagaagt 2100  
 cattgccact caccocgcca gagaccactc cttcttttgg gacgagtttg 2150  
 acaacctcca tcagtatgct ccagaggatca tccagaacat ttgtacagag 2200  
 ttcaactcac agcctcggaa ctgaattcag agcaggcaga gcaccagcaa 2250  
 gtgctgcttt actaactgac gtgttgacc accccaccgc ttaatggggc 2300  
 acgcacggtg catcaagtct tgggcagggc atggagaaac aaatgtcttg 2350  
 ttattattct ttgccatcat gctttttcat attccaaaac ttggagttac 2400  
 aaagatgatc acaaacgtat agaatgagcc aaaaggctac atcatgttga 2450  
 ggggtgctga gattttacat tttgacaatt gttttcaaaa taaatgttcg 2500  
 gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550  
 ttttaagttg tatttctgat ttgaactctg taaccctcag caagtttcat 2600  
 ttttgtcatg acaatgtagg aattgctgaa tttaaattgtt agaaggatga 2650  
 aaaataaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2700  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
 aaaaaaaaaa aaaaaaaaaa aag 2773

<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

Met	Arg	Thr	Val	Val	Leu	Thr	Met	Lys	Ala	Ser	Val	Ile	Glu	Met	
1				5					10					15	
Phe	Leu	Val	Leu	Leu	Val	Thr	Gly	Val	His	Ser	Asn	Lys	Glu	Thr	
			20						25					30	
Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	
			35						40					45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	
			50						55					60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	
			65						70					75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	
			80						85					90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	
			95						100					105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	
			110						115					120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	
			125						130					135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	
			140						145					150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	
			155						160					165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	
			170						175					180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	
			185						190					195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	
			200						205					210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	
			215						220					225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	
			230						235					240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	
			245						250					255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	
			260						265					270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	
			275						280					285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly	

	290		295		300
Ser Thr Ser Ile	Gly Lys Arg Arg Phe	Arg Ile Gln Lys Gln Leu			
	305	310			315
Leu Ala Asp Val	Ala Gln Ala Leu Asp	Ile Gly Pro Ala Gly Pro			
	320	325			330
Leu Met Gly Val	Val Gln Tyr Gly Asp	Asn Pro Ala Thr His Phe			
	335	340			345
Asn Leu Lys Thr	His Thr Asn Ser Arg	Asp Leu Lys Thr Ala Ile			
	350	355			360
Glu Lys Ile Thr	Gln Arg Gly Gly Leu	Ser Asn Val Gly Arg Ala			
	365	370			375
Ile Ser Phe Val	Thr Lys Asn Phe Phe	Ser Lys Ala Asn Gly Asn			
	380	385			390
Arg Ser Gly Ala	Pro Asn Val Val Val	Val Met Val Asp Gly Trp			
	395	400			405
Pro Thr Asp Lys	Val Glu Glu Ala Ser	Arg Leu Ala Arg Glu Ser			
	410	415			420
Gly Ile Asn Ile	Phe Phe Ile Thr Ile	Glu Gly Ala Ala Glu Asn			
	425	430			435
Glu Lys Gln Tyr	Val Val Glu Pro Asn	Phe Ala Asn Lys Ala Val			
	440	445			450
Cys Arg Thr Asn	Gly Phe Tyr Ser Leu	His Val Gln Ser Trp Phe			
	455	460			465
Gly Leu His Lys	Thr Leu Gln Pro Leu	Val Lys Arg Val Cys Asp			
	470	475			480
Thr Asp Arg Leu	Ala Cys Ser Lys Thr	Cys Leu Asn Ser Ala Asp			
	485	490			495
Ile Gly Phe Val	Ile Asp Gly Ser Ser	Ser Val Gly Thr Gly Asn			
	500	505			510
Phe Arg Thr Val	Leu Gln Phe Val Thr	Asn Leu Thr Lys Glu Phe			
	515	520			525
Glu Ile Ser Asp	Thr Asp Thr Arg Ile	Gly Ala Val Gln Tyr Thr			
	530	535			540
Tyr Glu Gln Arg	Leu Glu Phe Gly Phe	Asp Lys Tyr Ser Ser Lys			
	545	550			555
Pro Asp Ile Leu	Asn Ala Ile Lys Arg	Val Gly Tyr Trp Ser Gly			
	560	565			570
Gly Thr Ser Thr	Gly Ala Ala Ile Asn	Phe Ala Leu Glu Gln Leu			
	575	580			585
Phe Lys Lys Ser	Lys Pro Asn Lys Arg	Lys Leu Met Ile Leu Ile			
	590	595			600
Thr Asp Gly Arg	Ser Tyr Asp Asp Val	Arg Ile Pro Ala Met Ala			

	605		610		615
Ala His Leu Lys Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp				
620	625			630	
Ala Ala Gln Glu Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg				
635	640			645	
Asp His Ser Phe Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr				
650	655			660	
Val Pro Arg Ile Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln				
665	670			675	
Pro Arg Asn					

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
 caggatgaac tggttgcagt ggctgctgct gctgcggggg cgctgagagg 50  
 acacgagctc tatgcctttc cggtctgtca tcccgtcgg cctcctgtgc 100  
 gcgctgctgc ctacgacca tggcgccca ggtcccgcg gctccgcgc 150  
 agatcccgcc cactacagtt tttctctgac tctaattgat gcactggaca 200  
 ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250  
 ctccaggaca gcgtggactt tgatattgat gtgaacgcct ctgtgtttga 300  
 aacaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350  
 agaaggctgg ggtggaagta gaggctggat ggccctgttc cgggcctctc 400  
 ctgagaatgg ctgaggaggc ggcccgaata ctctcccag ctttccagac 450  
 cccactggc atgcatatg gaacagtga cttacttcat ggcgtgaacc 500  
 caggagagac ccctgtcacc tgtacggcag ggattgggac cttcattgtt 550  
 gaatttgcca ccctgagcag cctcactggt gaccgggtgt tcgaagatgt 600  
 ggccagagtg gctttgatgc gcctctggga gagccgtca gatatcgggc 650  
 tggtcggcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 700  
 gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg 750  
 agccatcctg cttcaggata agaagctcat ggccatgttc ctagagtata 800  
 acaaagccat ccggaactac acccgcttcg atgactggta cctgtggggt 850  
 cagatgtaca aggggactgt gtccatgcca gtcttccagt ccttgagggc 900  
 ctactggcct ggtcttcaga gcctcattgg agacattgac aatgccatga 950  
 ggaccttcct caactactac actgtatgga agcagtttgg ggggctccc 1000



0958593 1.13001

	125		130		135
Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
	140	145			150
Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe Glu			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
	515	520	525		
Phe Thr Ser Lys	Leu Ala Leu Leu Gly	Gln Val Phe Leu Asp	Ser		
	530	535	540		

Ser

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

<400> 182  
 aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50  
 catctgggtt tgggcagaaa ggagggtgct tcggagcccg ccctttctga 100  
 gcttcctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150  
 tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttatttt ggaaagaaac aatgtttctag gtcaaactga gtctaccaa 250  
 tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
 tggtttttct acgcattgat tccatgtttg ctacagatg aagtggccat 350  
 tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
 tcttgatgtg gagcccagtg atcgcgctg gagaaacagt gtactattct 450  
 gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
 cccagcagc tgggtgtcac tcaactgaagg tcctgagtgt gatgtcactg 550  
 atgacatcac ggccactgtg ccatacaacc ttctgtgtcag ggccacattg 600  
 ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
 ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700  
 acctggttat tgagctggag gacctggggc ccagtttga gttccttgtg 750  
 gcctactgga ggaggagcc tgggtgccgag gaacatgtca aaatggtgag 800  
 gagtgggggt attccagtgc acctagaaac catggagcca ggggctgcat 850

actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900  
 ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca tccccctggt 950  
 actggccctg tttgcctttg ttggcttcat gctgatcctt gtggtcgtgc 1000  
 cactgttcgt ctggaatatg ggccggctgc tccagtactc ctgttgcccc 1050  
 gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100  
 aatcagctgc agaagggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
 ctctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200  
 caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
 aagtttgttt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
 gagcctgttg tctacaagtc tagaagcaac catcagaggc agggtggttt 1350  
 gtctaacaga aactgactg aggcctaggg gatgtgacct ctagactggg 1400  
 ggctgccact tgctggctga gcaaccctgg gaaaagtgcac ttcacccctt 1450  
 cggctctaag ttttctcatc tgtaatggg gaattacct cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacaccagc acttgcaagg ctagagggaa actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
 gatcaaggac tctacacact ggggtgcttg gagagccac tttcccagaa 1700  
 taatccttga gagaaaagga atcatgggag caatgggtgt gagttcactt 1750  
 caagcccaat gccggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
 gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
 acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
 agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
 aattcagcaa ataaaaagg ccaccctggc caaaagcgggt aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	
1				5				10						15	
Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
				20				25						30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
				35				40						45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
				50				55						60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
				65				70						75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
				80				85						90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
				95				100						105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
				110				115						120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
				125				130						135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
				140				145						150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
				155				160						165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
				170				175						180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
				185				190						195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
				200				205						210	
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	
				215				220						225	



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
 tcctgctgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50  
 cctttctagc ttctggccg gctctagaac aattcaggct tcgctgcgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaatgcag actttcacia tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtgggt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gactacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctggtg ctactcact gaaggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggccca 550  
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600  
 agaaaactcaa ccatccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaaacccc ttgcggcgca aggggttngc 750  
 gaaccccttg cgcccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgacccac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggtcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tggctgctcc tgtgggctgc ggcctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctgggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgcccgccg 350  
cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggtg 400  
ctggtgcccc tctgccttc aagtacctgg cccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaagggtgt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga ccccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcgagaaga cttataacca 600

ccgcgtctcc tctccacca cctcatcccg cccacctgtg tggggctgac 650  
 caatgcaaac tcaaatgggtg cttcaaaggg agagaccac tgactctcct 700  
 tcttttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccaccca 900  
 aggcttctgt aaactgggac caatgattac ctcatagggc tgttgtgagg 950  
 attaggatga aatacctgtg aaagtgccta ggcaagtcca gccaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttgttat 1050  
 caataaaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 189

Met	Val	Ala	Ala	Thr	Val	Ala	Ala	Ala	Trp	Leu	Leu	Leu	Trp	Ala	1	5	10	15
Ala	Ala	Cys	Ala	Gln	Gln	Glu	Gln	Asp	Phe	Tyr	Asp	Phe	Lys	Ala	20	25	30	
Val	Asn	Ile	Arg	Gly	Lys	Leu	Val	Ser	Leu	Glu	Lys	Tyr	Arg	Gly	35	40	45	
Ser	Val	Ser	Leu	Val	Val	Asn	Val	Ala	Ser	Glu	Cys	Gly	Phe	Thr	50	55	60	
Asp	Gln	His	Tyr	Arg	Ala	Leu	Gln	Gln	Leu	Gln	Arg	Asp	Leu	Gly	65	70	75	
Pro	His	His	Phe	Asn	Val	Leu	Ala	Phe	Pro	Cys	Asn	Gln	Phe	Gly	80	85	90	
Gln	Gln	Glu	Pro	Asp	Ser	Asn	Lys	Glu	Ile	Glu	Ser	Phe	Ala	Arg	95	100	105	
Arg	Thr	Tyr	Ser	Val	Ser	Phe	Pro	Met	Phe	Ser	Lys	Ile	Ala	Val	110	115	120	
Thr	Gly	Thr	Gly	Ala	His	Pro	Ala	Phe	Lys	Tyr	Leu	Ala	Gln	Thr	125	130	135	
Ser	Gly	Lys	Glu	Pro	Thr	Trp	Asn	Phe	Trp	Lys	Tyr	Leu	Val	Ala	140	145	150	
Pro	Asp	Gly	Lys	Val	Val	Gly	Ala	Trp	Asp	Pro	Thr	Val	Ser	Val				

09090999.1.2004

```

155
Glu Glu Val Arg Pro Gln Ile Thr Ala
170

160
Leu Val Arg Lys Leu Ile
175

165
Leu Leu Lys Arg Glu Asp Leu
185

<210> 190
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 190
gcaggacttc tacgacttca aggc 24

<210> 191
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 191
agtctggggcc aggtacttga aggc 24

<210> 192
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 192
caacatccgg ggcaaactgg tgctcgctgga gaagtaccgc ggatcgggtgt 50

<210> 193
<211> 2187
<212> DNA
<213> Homo sapiens

<400> 193
cggacgcgtg ggcgggcccgg gacgcagggc aaagcgagcc atggctgtct 50
acgtcgggat gctgcgcctg gggaggetgt gcgccgggag ctcggggggtg 100
ctggggggccc gggccgccct ctctcggagt tggcaggaag ccaggttgca 150
gggtgtccgc ttcctcagtt ccagagaggt ggatcgcgat gtctccacgc 200
ccatcggagg cctcagctac gttcaggggt gcacaaaaaa gcatcttaac 250
agcaagactg tgggccagtg cctggagacc acagcacaga ggggtcccaga 300
acgagaggcc ttggtcgtcc tccatgaaga cgtcaggttg acctttgccc 350
aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400
```

ctctgcaaag gtgaccggct gggcatgtgg ggacctaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaaccacagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt ccccaagcaa ttcaagaccc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
 gcccctttgc cggggaccct gctcctggat gaagtgggtg cggctggcag 750  
 cacacggcag catctggacc agtccaata caaccagcag ttctgtcct 800  
 gccatgaccc catcaacatc cagttcacct cggggacaac aggagacccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
 aggagagcgc ctgaaactgc atgagaagac accagagcag ttgcggatga 950  
 tcctgccccaa cccctgtac cattgcctgg gttccgtggc aggacacatg 1000  
 atgtgtctga tgtacggtgc caccctcatc ctggcctctc ccatcttcaa 1050  
 tggcaagaag gactggagg ccatcagcag agagagaggc accttctgt 1100  
 atggtacccc cacgatgttc gtggacatc tgaaccagcc agacttctcc 1150  
 agttatgaca tctcgaccat gtgtggagggt gtcattgctg ggtcccctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttgc ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
 ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gaggcccga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gcccggggag ctgtgcatcc gaggggtactg cgtcatgctg 1450  
 ggctactggg gtgagcctca gaagacagag gaagcagtgg atcaggacaa 1500  
 gtggtattgg acaggagatg tcgccacaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgctctaag gatgatgaca tccgggggtg tgagaacatc 1600  
 taccocgcag agctcgagga cttctttcac acacacccga aggtgcagga 1650  
 agtgcagggtg gtgggagtga aggacgatcg gatgggggaa gagatttgtg 1700  
 cctgcattcg gctgaaggac ggggaggaga ccacggtgga ggagataaaa 1750  
 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttgtcaca aactaccccc tcaccatttc aggaaagatc cagaaattca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gcoggttggc ttgactctct cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctagatgtcc ccagcaccca gttctgagcc aggacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgcctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attcccctgt ctgtccttgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
Met Ala Val Tyr Val Gly Met Leu Arg Leu Gly Arg Leu Cys Ala  
1 5 10 15  
Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His







ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
atgagagtgc ataccgccc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgccca gggtagatcg ccgccggtcg tgagctgcta 500  
caacgccagc gatcatgtct acaagggctg cttogacggc aacgtcacct 550  
tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
gatgaattct gcactcgga tggagtaaca ggcccagggt tcacgctcag 650  
tggctcctgt tgccaggggt cccgctgtaa ctctgacctc cgcaacaaga 700  
cctacttctc ccctcgaatc ccaccccttg tccggctgcc ccctccagag 750  
cccacgactg tggcctcaac cacatctgtc accacttcta cctcggtccc 800  
agtgaagacc acatccacca ccaaaccat gccagcgcca accagtcaga 850  
ctccgagaca gggagtagaa cacgaggcct cccgggatga ggagcccagg 900  
ttgactggag gcgccgctgg ccaccaggac cgcagcaatt cagggcagta 950  
tcctgcaaaa ggggggcccc agcagcccca taataaaggc tgtgtggctc 1000  
ccacagctgg attggcagcc cttctgttgg ccgtggctgc tgggtgtccta 1050  
ctgtgagctt ctccacctgg aaatttccct ctacactact tctctggccc 1100  
tgggtacccc tcttctcctc acttctctgtt cccaccactg gactgggctg 1150  
gccagcccc tgtttttcca acattcccca gtatccccag cttctgctgc 1200  
gctggtttgc ggctttggga aataaaatac cgttgatat attctgccag 1250  
gggtgttcta gctttttgag gacagctcct gtatccttct catccttgtc 1300  
tctccgcttg tcctcttgtg atgttaggac agagtgaag aagtcagctg 1350  
tcacggggaa ggtgagagag aggatgctaa gcttctact cactttctcc 1400  
tagccagcct ggactttgga gcgtggggtg ggtgggacaa tggctcccca 1450  
ctctaagcac tgcctcccct actccccgca tctttgggga atcggttccc 1500  
catatgtctt ccttactaga ctgtgagctc ctgagggggg ggcccgttac 1550  
ccaattcgcc ctatagtgag tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

Met	Asp	Pro	Ala	Arg	Lys	Ala	Gly	Ala	Gln	Ala	Met	Ile	Trp	Thr
1					5				10					15

Ala	Gly	Trp	Leu	Leu	Leu	Leu	Leu	Leu	Arg	Gly	Gly	Ala	Gln	Ala
			20						25					30

Leu	Glu	Cys	Tyr	Ser	Cys	Val	Gln	Lys	Ala	Asp	Asp	Gly	Cys	Ser
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35	40	45
Pro Asn Lys Met	Lys Thr Val Lys Cys Ala	Pro Gly Val Asp Val	
	50	55	60
Cys Thr Glu Ala	Val Gly Ala Val Glu Thr	Ile His Gly Gln Phe	
	65	70	75
Ser Leu Ala Val	Arg Gly Cys Gly Ser	Gly Leu Pro Gly Lys Asn	
	80	85	90
Asp Arg Gly Leu	Asp Leu His Gly Leu	Leu Ala Phe Ile Gln Leu	
	95	100	105
Gln Gln Cys Ala	Gln Asp Arg Cys Asn	Ala Lys Leu Asn Leu Thr	
	110	115	120
Ser Arg Ala Leu	Asp Pro Ala Gly Asn	Glu Ser Ala Tyr Pro Pro	
	125	130	135
Asn Gly Val Glu	Cys Tyr Ser Cys Val	Gly Leu Ser Arg Glu Ala	
	140	145	150
Cys Gln Gly Thr	Ser Pro Pro Val Val	Ser Cys Tyr Asn Ala Ser	
	155	160	165
Asp His Val Tyr	Lys Gly Cys Phe Asp	Gly Asn Val Thr Leu Thr	
	170	175	180
Ala Ala Asn Val	Thr Val Ser Leu Pro	Val Arg Gly Cys Val Gln	
	185	190	195
Asp Glu Phe Cys	Thr Arg Asp Gly Val	Thr Gly Pro Gly Phe Thr	
	200	205	210
Leu Ser Gly Ser	Cys Cys Gln Gly Ser	Arg Cys Asn Ser Asp Leu	
	215	220	225
Arg Asn Lys Thr	Tyr Phe Ser Pro Arg	Ile Pro Pro Leu Val Arg	
	230	235	240
Leu Pro Pro Pro	Glu Pro Thr Thr Val	Ala Ser Thr Thr Ser Val	
	245	250	255
Thr Thr Ser Thr	Ser Ala Pro Val Arg	Pro Thr Ser Thr Thr Lys	
	260	265	270
Pro Met Pro Ala	Pro Thr Ser Gln Thr	Pro Arg Gln Gly Val Glu	
	275	280	285
His Glu Ala Ser	Arg Asp Glu Glu Pro	Arg Leu Thr Gly Gly Ala	
	290	295	300
Ala Gly His Gln	Asp Arg Ser Asn Ser	Gly Gln Tyr Pro Ala Lys	
	305	310	315
Gly Gly Pro Gln	Gln Pro His Asn Lys	Gly Cys Val Ala Pro Thr	
	320	325	330
Ala Gly Leu Ala	Ala Leu Leu Leu Ala	Val Ala Ala Gly Val Leu	
	335	340	345

Leu

<210> 198  
 <211> 1657  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
 cgggactcgg cgggtcctcc tgggagtctc ggaggggacc ggctgtgcag 50  
 acgccatgga gttggtgctg gtcttcctct gcagcctgct gggcccatg 100  
 gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
 tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
 tctcggttgg gatcctcctt atcctaagtc gcagggtgcaa gtgcagtttc 250  
 aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
 catcacgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
 catcaggtgg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
 gcaaattgtc atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
 ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
 cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
 gcggtcctgc ccacctccc tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
 gtgtgtgttt gctaactgtg gtctttgtgg ctacttgttt gtggatggta 650  
 ttgtgtttgt tagtgaactg tggactcgct ttcccaggca ggggctgagc 700  
 cacatggcca tctgtcctc cctgcccccg tggccctcca tcaccttctg 750  
 ctctaggag gctgcttgtt gcccagagacc agccccctcc cctgatttag 800  
 ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
 tgggaagggt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
 cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
 tctcttagca actggagata caaagcaagg agctggtgag ccagcgttg 1000  
 acgtcaggca ggctatgcc ttccgtgggt aatttcttcc caggggcttc 1050  
 cacgaggagt ccccatctgc cccgcccctt cacagagcgc ccggggattc 1100  
 caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcatatc 1150  
 ttctcagcaa taactccatg ggctctggga ccctaccct tccaaccttc 1200  
 cctgcttctg agaattcaat ctacagccca gctcatccag atgcagacta 1250  
 cagtccctgc aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
 ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
 cttctctgcc tacgtccct tagatgggca gcagaggcaa ctcccgcatc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcagaggt gggttggaga 1450  
 ctcagcaggc tccgtgcagc ccttgggaac agtgagaggt tgaaggcat 1500  
 aacgagagtg ggaactcaac ccagatccccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gacccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatataccttt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
     1                    5                    10                    15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
                     20                    25                    30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
                     35                    40                    45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
                     50                    55                    60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
                     65                    70                    75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
                     80                    85                    90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
                     95                    100                    105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
                     110                    115                    120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctgggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 cogttcctga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctctt ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgccttttct aagctgaaag gactgaggag cgcaactcct 300  
 gatgccagtg gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201  
<211> 99  
<212> PRT  
<213> Homo sapiens

<400> 201  
Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15  
Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30  
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45  
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60  
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75  
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90  
Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202  
<211> 678  
<212> DNA  
<213> Homo sapiens

<400> 202  
cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgtggctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgacttcttc 250  
atgatttaat aaccatcctt tgcgaagttt tatgaggctt taggggaatg 300  
tcaacctca aatttttggt atactagatg gcttccattt acccaccact 350  
attttaaggt ccctttatct ttaggttcaa ggttcatttg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttggt tatcttcact attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550  
aatttaaatg ttatttctaatt attagtagat tcagttgtga tgtaatatga 600  
ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650  
atttgtagat aaagactgaa tagtgatg 678

[illegible]Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
1 5 10 15

Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
35 40 45

```
<210> 204
<211> 1917
<212> DNA
<213> Homo sapiens
```

ggggaatctg	cagtaggtct	gccggcgatg	gagtgggtggg	ctagctcgcc	50
gcttcggctc	tggctgctgt	tgttcctcct	gccctcagcg	cagggcgcc	100
agaaggagtc	aggttcaaaa	tggaaagtat	ttattgacca	aattaacagg	150
tctttggaga	attacgaacc	atgttcaagt	caaaactgca	gctgotacca	200
tggtgtcata	gaagaggatc	taactccttt	ccgaggaggc	atctocagga	250
agatgatggc	agaggtagtc	agacggaagc	tagggaccca	ctatcagatc	300
actaagaaca	gactgtaccg	ggaaaatgac	tgcattgttc	cctcaagggtg	350
tagtgggtgt	gagcacttta	ttttggaagt	gatcggggcgt	ctccttgaca	400
tggagatggg	gatcaatgta	cgagattatc	ctcagggttc	taaatggatg	450
gagcctgcca	tcccagtcct	ctccttcagt	aagacatcag	agtaccatga	500
tatcatgtat	cctgcttgga	cattttggga	agggggacct	gctgtttggc	550
caatttatcc	tacaggctct	ggacggtggg	acctcttcag	agaagatctg	600
gtaagggtcag	cagcacagtg	gccatggaaa	aagaaaaact	ctacagcata	650
tttcogagga	tcaaggacaa	gtccagaacg	agatcctctc	attcttctgt	700
ctcggaaaaa	cccaaaactt	gttgatgcag	aatacaccaa	aaaccaggcc	750
tggaaatcta	tgaaagatac	cttaggaaag	ccagctgcta	aggatgtcca	800
tcttgtggat	cactgcaaatt	acaagtatct	gtttaatttt	cgaggcgtag	850
ctgcaagttt	ccggtttaaa	cacctcttcc	tgtgtggctc	acttgttttc	900
catgttgggtg	atgagtggct	agaattcttc	tatccacagc	tgaagccatg	950
ggttcactat	atcccagtc	aaacagatct	ctccaatgtc	caagagctgt	1000

tacaatttgt aaaagcaa at gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctgggagaac ctcttgagt aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaa at acctggtttt ccttatcatg ctgcacccag 1350  
 agcaactctt gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaaccaaac tctacctttc attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg ccctttgtcc cattatttgg agcagaaaat tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaattgtg aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaaccc tatgggggtt atgaaaaata 1700  
 cttggggatc attctctgaa tggcttaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcaggttccc ttttgtgcc ttcatgccct acttctta at 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
 1 5 10 15  
 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro





<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206  
caccctcca tttctcgcca tggcccctgc actgctcctg atccctgctg 50  
ccctcgctc tttcatcctg gcctttggca ccggagtgga gttcgtgogc 100  
tttacctccc ttcggccact tcttgaggg atcccggagt ctggtggtcc 150  
ggatgccgc cagggatggc tggctgccct gcaggaccgc agcatccttg 200  
ccccctggc atgggatctg gggctcctgc ttctatttgt tgggcagcac 250  
agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtactttgg 300  
ggtccttcag aggtcactgt atgtggcctg cactgccctg gccttgacgc 350  
tggatgatgc gtactgggag ccataccca aaggccctgt gttgtgggag 400  
gctcgggctg agccatgggc cacctgggtg ccgctcctct gctttgtgct 450  
ccatgtcatc tctgggctcc tcactcttag catccttctc gtctttgact 500  
atgctgagct catgggcctc aaacagggtat actaccatgt gctggggctg 550  
ggcagacctc tggccctgaa gtctcccgg gctctcagac tcttctcca 600  
cctgcgccac ccagtgtgtg tggagctgct gacagtgctg tgggtggtgc 650  
ctaccctggg cacggaccgt ctctccttg ctttctcct taccctctac 700  
ctgggcctgg ctacgggct tgatcagcaa gacotccgct acctccgggc 750  
ccagctacaa agaaaactcc acctgctctc toggccccag gatggggagg 800  
cagagtgagg agctcactct gggtacaagc cctgttcttc ctctccact 850  
gaattctaaa tccttaacat ccaggccctg gctgcttcat gccagaggcc 900  
caaatccatg gactgaagga gatgccctt ctactacttg agactttatt 950  
ctctgggtcc agctccatac cctaaattct gagtttcagc cactgaactc 1000  
caaggtccac ttctcaccag caaggaagag tggggatgga aagtcactg 1050  
tcccttact gtttagagca tgacactctc cccctcaaca gcctcctgag 1100  
aaggaaagga tctgccctga ccaactccct ggcactgtta cttgcctctg 1150  
cgctcaggg gtcccttct gcacogctgg cttccactcc aagaagggtg 1200  
accagggtct gcaagttcaa cggatcatagc tgtccctcca ggccccaacc 1250  
ttgcctcacc actcccggcc ctagtctctg cacctcctta ggccctgct 1300  
ctgggctcag accccaacct agtcaagggg attctcctgc tcttaactcg 1350  
atgacttggg gctccctgct ctcccagga agatgctctg caggaaaata 1400  
aaagtcagcc tttttctaaa aaaa 1425

<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe	
1				5					10					15	
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser	
				20					25					30	
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp	
				35					40					45	
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu	
				50					55					60	
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Leu	Phe	Val	Gly	
				65					70					75	
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser	
				80					85					90	
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr	
				95					100					105	
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro	
				110					115					120	
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr	
				125					130					135	
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu	
				140					145					150	
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met	
				155					160					165	
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro	
				170					175					180	
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu	
				185					190					195	
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val	
				200					205					210	
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr	
				215					220					225	
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg	
				230					235					240	
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg	
				245					250					255	
Pro	Gln	Asp	Gly	Glu	Ala	Glu									
				260											

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

ccgagcacag gagattgcct gcgttttagga ggtggctgcg ttgtgggaaa 50  
agctatcaag gaagaaattg ccaaaccatg tctttttttc tgttttcaga 100  
gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa cttaagcttt aatttcatct ggaattccac agttttctta 200  
gctccctgga cccggttgac ctgttggctc ttcccgtggt ctgctctatc 250  
acgtgggtgct ctccgactac tcaccccgag tgtaaagaac cttoaggctcg 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
gagtaggatg tcaactgagat cccctcaaag gagcctcctg ctgctgtcac 400  
tcctgagttt ctttgtgatg tggtaacctca gccttcccca ctacaatgtg 450  
atagaacgcg tgaactggat gtacttctat gagtatgagc cgatttacag 500  
acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
aggcaggcca ttagagttac ttggggtgaa aaaaagtctt ggtggggata 650  
tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
aatgtttggc attgtcctta gaggatgaac accttcttta tggtgacata 750  
atccgacaag attttttaga cacatataat aacctgacct tgaaaacccat 800  
tatggcattc aggtgggtaa ctgagttttg ccccaatgcc aagtacgtaa 850  
tgaagacaga cactgatgtt ttcacaaata ctggcaattt agtgaagtat 900  
cttttaaacc taaaccactc agagaagttt ttcacagggt atcctctaata 950  
tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000  
aggagtatcc tttcaagggtg ttccctccat actgcagtgg gttgggttat 1050  
ataatgtcca gagatttggt gccaaaggatc tatgaaatga tgggtcacgt 1100  
aaaacccatc aagtttgaaag atgtttatgt cgggatctgt ttgaatttat 1150  
taaaagtga cttcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
cttttcttcc aaggagatca tcaacttttg gcaggatcatg ctaaggaaca 1300  
ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
ataccttggtg gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
ggaggtcagt gtgctggctt acactgaact gaaactcatg aaaaaccag 1450  
actggagact ggagggttac acttgtgatt tattagtcag gcccttcaaa 1500

gatgatatgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600  
ttcttaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650  
aacaatgtag agttttatatt attgaacaat gtagtcactt gaaggttttg 1700  
tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
aaaaaacttc ttactgaag ttatactgaa caaaatttta cctgtttttg 1800  
gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
tttaaaatta cttcaacttt gtgtttttta atgttttgac gatttcaata 1900  
caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
tacttaactg atcagtttat tattgatata tcactccatt aatgtaaagt 2000  
cataggtcat tattgcatat cagtaatctc ttggactttg ttaaataattt 2050  
tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 209  
Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu  
1 5 10 15  
Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
20 25 30  
Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
35 40 45  
Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
50 55 60  
Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
65 70 75  
Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
80 85 90  
Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
95 100 105  
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
110 115 120  
Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
125 130 135  
Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
140 145 150  
Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
155 160 165

Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp
				170					175					180
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu
				185					190					195
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile
				200					205					210
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser
				215					220					225
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly
				230					235					240
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu
				245					250					255
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val
				260					265					270
Gly	Ile	Cys	Leu	Asn	Leu	Leu	Lys	Val	Asn	Ile	His	Ile	Pro	Glu
				275					280					285
Asp	Thr	Asn	Leu	Phe	Phe	Leu	Tyr	Arg	Ile	His	Leu	Asp	Val	Cys
				290					295					300
Gln	Leu	Arg	Arg	Val	Ile	Ala	Ala	His	Gly	Phe	Ser	Ser	Lys	Glu
				305					310					315
Ile	Ile	Thr	Phe	Trp	Gln	Val	Met	Leu	Arg	Asn	Thr	Thr	Cys	His
				320					325					330

Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
 cctctgtcca ctgctttcgt gaagacaaga tgaagttcac aattgtcttt 50  
 gctggacttc ttggagtctt tctagctcct gccctagcta actataatat 100  
 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
 actctttcaa aagaagacat gcattgtgca caaaatgaac aaggaagtca 300  
 tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcag 350  
 ggtaaggggac caggaggacc acctcccaag ggctgatgt actcagtcaa 400  
 cccaaacaaa gtcgatgacc tgagcaagtt cggaaaaaac attgcaaaca 450  
 tgtgtcgtgg gattccaaca tacatggctg aggagatgca agaggcaagc 500  
 ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

ggacattttcc ttctgtggag acacggtgga gaactaaaca atttttttaa 600  
gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
tccagtgggtt ttaccatgt cattctgaaa tttttctcta ctagttatgt 700  
ttgatttctt taagtttcaa taaaatcatt tagcattgaa aaaaa 745

<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
Met Lys Phe Thr Ile Val Phe Ala Gly Leu Leu Gly Val Phe Leu  
1 5 10 15  
Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn  
20 25 30  
Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
catttctgaa actaatcgtg tcagaattga ctttgaaaag cattgctttt 50  
tacagaagta tattaacttt ttaggagtaa tttctagttt ggattgtaat 100

atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150  
tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200  
ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
ataaagtaga ttgagtctcc aattttatgt aagcttcaga agaactgggtt 300  
tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350  
gacagtcttc gaaccaatgt gtttgttcga tttcaaccag agactatagc 400  
atgtgcttgc atctaccttg cagctagagc acttcagatt ccgttgccaa 450  
ctcgtcccca ttggtttctt ctttttggtg ctacagaaga ggaaatccag 500  
gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550  
tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc ttacaagaag 600  
ccaaattaaa agcaaaggga ttgaatccgg atggaactcc agccctttca 650  
accctgggtg gattttctcc agcctccaag ccatcatcac caagagaagt 700  
aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750  
aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850  
gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900  
ataataggcg gagtcgatct ggaacataca gctcgagatc aagaagcagg 950  
tcccgcagtc acagtgaag cctcgaaga catcataatc atggttctcc 1000  
tcaccttaag gccaaagcata ccagagatga tttaaaaagt tcaaacagac 1050  
atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100  
gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150  
ggacaggcgt gaacgatctc gctcctttga gaggtcccat aaaagcaagc 1200  
accatggtgg cagtcgctca ggacatggca ggcacaggcg ctgactttct 1250  
cttcctttga gcctgcatca gttcttggtt ttgcctatct acagtgtgat 1300  
gtatggactc aatcaaaaaac attaaacgca aactgattag gatttgattt 1350  
cttgaaacct tctaggtctc tagaactg aggacagttt cttttgaaaa 1400  
gaactatggt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450  
aaaaaccatg gtcaggttca attgtacttt attatagttg tgtattgttt 1500  
attgctataa gaactggagc gtgaattctg taaaaatgta tcttattttt 1550  
atacagataa aattgcagac actgttctat ttaagtgggt atttgtttaa 1600  
atgatggtga atactttctt aacactgggt tgtctgcatg tgtaaagatt 1650  
tttacaagga aataaaatac aaatcttggt ttttctaaaa aaaaaaaaaa 1700

aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

Met	Asn	Asp	Ser	Leu	Arg	Thr	Asn	Val	Phe	Val	Arg	Phe	Gln	Pro
1				5					10					15
Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu
				20					25					30
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly
				35					40					45
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg
				50					55					60
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu
				65					70					75
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala
				80					85					90
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly
				95					100					105
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys
				110					115					120
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys
				125					130					135
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn
				140					145					150
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala
				155					160					165
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr
				170					175					180
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Tyr
				185					190					195
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro
				200					205					210
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His
				215					220					225
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg
				230					235					240
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser
				245					250					255
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp
				260					265					270
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
290 295

<210> 214  
<211> 730  
<212> DNA  
<213> Homo sapiens  
  
<220>  
<221> unsure  
<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663  
<223> unknown base

<400> 214  
tggggataaa ggaaaaatgg tcaggtatta atggcttaaa gattattgga 50  
aggggtttat cattttttga anntattcgg gtcanaattg nctttgaaaa 100  
gcattgcttt ttacagaaat atattanctt tttagagtaa tttctagttt 150  
ggattgtaat atgaaattat ttaaaagggc ttcgctcata tataggaaaa 200  
tcgcatatgg tcctagtatt aaatnnttat tgcttactga tttttttgag 250  
ttaagagttg ttatatgnta gaatatgagg atgtgaatat aaataagaga 300  
agaaaaaaga ataaagtaga ttgagtctcc aattttatgt aagcttcaga 350  
agaactgggtt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400  
ttacatgaat gacagtcttc gaaccaatgt gtttgttcga tttcaaccag 450  
agantatagc atgtgcttgc atctaccttg cagntagagc acttcagatt 500  
ccgttgccaa ctngtcccca ttggtttctt ctttttggtg ctacagaaga 550  
ggaaatccag gaaatntgca tagaaacact taggctttat accagaaaaa 600  
agccaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
ttacaagaag ccnaattaaa agcaaaggga ttgaatccgg atggaactcc 700  
agccctttca accctgggtg gatttttctcc 730

<210> 215  
<211> 1807  
<212> DNA  
<213> Homo sapiens

<400> 215  
ggcacgaggc ctctgtgcaa gcttggcacg aggggtgacc gcgttctcgc 50  
acgcgtcatg gcggtcctcg gagtacagct ggtggtgacc ctgctcactg 100  
ccaccctcat gcacaggctg gcgccacact gctccttcgc gcgctggctg 150  
ctctgtaacg gcagtttggt ccgatacaag caccctctctg aggaggagct 200  
tcggggccctg gcggggaagc cgaggcccag aggcaggaaa gagcgggtggg 250  
ccaatggcct tagtgaggag aagccactgt ctgtgccccg agatgccccg 300

ttccagctgg agacctgccc cctcacgacc gtggatgccc tggtoctgcg 350  
cttcttcctg gaggaccagt gggttggtga ctttgcctgt tactcgggcg 400  
gcgtgtacct cttcacagag gcctactact acatgctggg accagccaag 450  
gagactaaca ttgctgtggt ctgggtgcctg ctcacgggtga ccttctccat 500  
caagatgttc ctgacagtga cacggctgta cttcagcgcc gaggaggggg 550  
gtgagcgctc tgtctgcctc acctttgcct tcctcttcct gctgctggcc 600  
atgctgggtg aagtgggtgc ggaggagacc ctcgagctgg gcctggagcc 650  
tggctctggc agcatgaccc agaacttaga gccacttctg aagaagcagg 700  
gctgggactg ggcgcttcct gtggccaagc tggctatccg cgtgggactg 750  
gcagtgggtg gctctgtgct gggtgccttc ctcaccttc caggcctgcg 800  
gctggcccag acccaccggg acgcactgac catgtcggag gacagacca 850  
tgctgcagtt ctcctgcac accagcttc tgtctccct gttcatcctg 900  
tggctctgga caaagccat tgcacgggac ttctgcacc agccgccgtt 950  
tggggagacg cgtttctccc tgctgtccga ttctgccttc gactctgggc 1000  
gcctctggtt gctgggtgtg ctgtgcctgc tgcggctggc ggtgaccgg 1050  
ccccacctgc aggcctacct gtgcctggcc aaggcccggtg tggagcagct 1100  
gcgaaggag gctggccgca tcgaagcccg tgaaatccag cagagggtgg 1150  
tccgagtcta ctgctatgtg accgtggtga gcttgagta cctgacgcc 1200  
ctcatcctca ccctcaactg cacacttctg ctcaagacgc tgggaggcta 1250  
ttcctggggc ctgggcccag ctctctact atccccgac ccctcctcag 1300  
ccagcgctgc ccccatcgcc tctggggagg acgaagtcca gcagactgca 1350  
gcgcggattg ccggggccct gggtggcctg cttactcccc tcttctccg 1400  
tggcgtcctg gcctacctca tctggtggac ggctgcctgc cagctgctcg 1450  
ccagcctttt cggcctctac ttccaccagc acttggcagg ctctagctg 1500  
cctgcagacc ctctggggc cctgaggtct gttcctgggg cagcgggaca 1550  
ctagcctgcc ccctctgttt gcgccccgt gtccccagct gcaaggtggg 1600  
gccggactcc ccggcgttcc cttaccaca gtgcctgacc cgcggcccc 1650  
cttggaagcc gagtttctgc ctcagaactg tctctcctgg gccagcagc 1700  
atgaggggtc cgaggccatt gtctccgaag cgtatgtgcc aggtttgagt 1750  
ggcgagggtg atgctggctg ctcttctgaa caaataaagg agcatgccga 1800  
tttttaa 1807

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

Met	Ala	Val	Leu	Gly	Val	Gln	Leu	Val	Val	Thr	Leu	Leu	Thr	Ala	
1				5					10					15	
Thr	Leu	Met	His	Arg	Leu	Ala	Pro	His	Cys	Ser	Phe	Ala	Arg	Trp	
				20					25					30	
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu	
				35					40					45	
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg	
				50					55					60	
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser	
				65					70					75	
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr	
				80					85					90	
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp	
				95					100					105	
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr	
				110					115					120	
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile	
				125					130					135	
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met	
				140					145					150	
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly	
				155					160					165	
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu	
				170					175					180	
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly	
				185					190					195	
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu	
				200					205					210	
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu	
				215					220					225	
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala	
				230					235					240	
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp	
				245					250					255	
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu	
				260					265					270	
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr	
				275					280					285	
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu	

290										295					300				
Thr	Arg	Phe	Ser	Leu	Leu	Ser	Asp	Ser	Ala	Phe	Asp	Ser	Gly	Arg					
				305					310					315					
Leu	Trp	Leu	Leu	Val	Val	Leu	Cys	Leu	Leu	Arg	Leu	Ala	Val	Thr					
				320					325					330					
Arg	Pro	His	Leu	Gln	Ala	Tyr	Leu	Cys	Leu	Ala	Lys	Ala	Arg	Val					
				335					340					345					
Glu	Gln	Leu	Arg	Arg	Glu	Ala	Gly	Arg	Ile	Glu	Ala	Arg	Glu	Ile					
				350					355					360					
Gln	Gln	Arg	Val	Val	Arg	Val	Tyr	Cys	Tyr	Val	Thr	Val	Val	Ser					
				365					370					375					
Leu	Gln	Tyr	Leu	Thr	Pro	Leu	Ile	Leu	Thr	Leu	Asn	Cys	Thr	Leu					
				380					385					390					
Leu	Leu	Lys	Thr	Leu	Gly	Gly	Tyr	Ser	Trp	Gly	Leu	Gly	Pro	Ala					
				395					400					405					
Pro	Leu	Leu	Ser	Pro	Asp	Pro	Ser	Ser	Ala	Ser	Ala	Ala	Pro	Ile					
				410					415					420					
Gly	Ser	Gly	Glu	Asp	Glu	Val	Gln	Gln	Thr	Ala	Ala	Arg	Ile	Ala					
				425					430					435					
Gly	Ala	Leu	Gly	Gly	Leu	Leu	Thr	Pro	Leu	Phe	Leu	Arg	Gly	Val					
				440					445					450					
Leu	Ala	Tyr	Leu	Ile	Trp	Trp	Thr	Ala	Ala	Cys	Gln	Leu	Leu	Ala					
				455					460					465					
Ser	Leu	Phe	Gly	Leu	Tyr	Phe	His	Gln	His	Leu	Ala	Gly	Ser						
				470					475										

<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
 cgttngcacg cgtcaatggc ggtcctcgga gtacagctgg tggtagaccct 50  
 gctcactgcc accctcatgc acaggctggc gccacactgc tccttcgcgc 100  
 gctggctgct ctgtaacggc agtttggtcc gatacaagca cccgtnttga 150  
 ggaggagctt cgggccctgg cggggaagcc gagggccaga ggcaggaaaag 200  
 agcgggtgggc caatggcctt agtgaggaga agccactgtc tgtgccccga 250  
 gatgccccgt tccagctgga gacctgcccc ctcacgaccg tggatgccct 300  
 ggtcctgcgc ttcttcctgg agtaccagtg gtttgtggac tttgctgtgt 350

actcgggcg cgtgtacctc ttcacagagg cctactacta catgctggga 400  
ccagccaagg agactaacat tgctgtgttc tgggtgcctgc tcacagtgc 450  
cttctccatc aagatgttcc tgacagtgc acggctgtac ttcagcgccg 500  
aggagggggg tgagcgctct gtctgcctca cctttgcctt cctcttcctg 550  
ctgctggcca tgctggtgca agcg 574

<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

<400> 218  
ggttcctaca tcctctcatc tgagaatcag agagcataat cttcttacgg 50  
gcccgtgatt tattaacgtg gcttaatctg aaggtttctca gtcaaattct 100  
ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150  
ggctgggttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200  
cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccttggct 250  
cagtcctgct aactacattg acaatgtggg caacctgcac ttcctgtatt 300  
cagaactctg taaaggtgcc tcccactacg gcctgaccaa agataggaag 350  
aggcgctcac aagatggctg tccagacggc tgtgogagcc tcacagccac 400  
ggctccctcc ccagaggttt ctgcagctgc caccatctcc ttaatgacag 450  
acgagcctgg cctagacaac cctgcctacg tgtcctcggc agaggacggg 500  
cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550  
acggcccttt gagagatcca ctattagaag cagatcattt aaaaaataa 600  
atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650  
aaccatgccg accagggcag ggaaaattct gaaaacacca ctgcccctga 700  
agtctttcca aggttgtagc acctgattcc agatggtgaa attaccagca 750  
tcaagatcaa tcgagtagat ccagtgaaa gcctctctat taggctggtg 800  
ggaggtagcg aaaccctact ggtccatctc attatccaac acatttatcg 850  
tgatggggtg atcgccagag acggccggct actgccagga gacatcattc 900  
taaaggtcaa cgggatggac atcagcaatg tccctcacia ctacgctgtg 950  
cgtctcctgc ggcagccctg ccagggtgctg tggtgactg tgatgcgtga 1000  
acagaagttc cgcagcagga acaatggaca ggccccgat gcctacagac 1050  
cccagatga cagctttcat gtgattctca acaaaagtag ccccgaggag 1100  
cagcttgga taaaactggg gcgcaagggt gatgagcctg gggttttcat 1150  
cttcaatgtg ctggatggcg gtgtggcata tcgacatggt cagcttgagg 1200





	320		325		330
Asp Arg Val Leu	Ala Ile Asn Gly His	Asp Leu Arg Tyr Gly Ser			
	335	340			345
Pro Glu Ser Ala	Ala His Leu Ile Gln	Ala Ser Glu Arg Arg Val			
	350	355			360
His Leu Val Val	Ser Arg Gln Val Arg	Gln Arg Ser Pro Asp Ile			
	365	370			375
Phe Gln Glu Ala	Gly Trp Asn Ser Asn	Gly Ser Trp Ser Pro Gly			
	380	385			390
Pro Gly Glu Arg	Ser Asn Thr Pro Lys	Pro Leu His Pro Thr Ile			
	395	400			405
Thr Cys His Glu	Lys Val Val Asn Ile	Gln Lys Asp Pro Gly Glu			
	410	415			420
Ser Leu Gly Met	Thr Val Ala Gly Gly	Ala Ser His Arg Glu Trp			
	425	430			435
Asp Leu Pro Ile	Tyr Val Ile Ser Val	Glu Pro Gly Gly Val Ile			
	440	445			450
Ser Arg Asp Gly	Arg Ile Lys Thr Gly	Asp Ile Leu Leu Asn Val			
	455	460			465
Asp Gly Val Glu	Leu Thr Glu Val Ser	Arg Ser Glu Ala Val Ala			
	470	475			480
Leu Leu Lys Arg	Thr Ser Ser Ser Ile	Val Leu Lys Ala Leu Glu			
	485	490			495
Val Lys Glu Tyr	Glu Pro Gln Glu Asp	Cys Ser Ser Pro Ala Ala			
	500	505			510
Leu Asp Ser Asn	His Asn Met Ala Pro	Pro Ser Asp Trp Ser Pro			
	515	520			525
Ser Trp Val Met	Trp Leu Glu Leu Pro	Arg Cys Leu Tyr Asn Cys			
	530	535			540
Lys Asp Ile Val	Leu Arg Arg Asn Thr	Ala Gly Ser Leu Gly Phe			
	545	550			555
Cys Ile Val Gly	Gly Tyr Glu Glu Tyr	Asn Gly Asn Lys Pro Phe			
	560	565			570
Phe Ile Lys Ser	Ile Val Glu Gly Thr	Pro Ala Tyr Asn Asp Gly			
	575	580			585
Arg Ile Arg Cys	Gly Asp Ile Leu Leu	Ala Val Asn Gly Arg Ser			
	590	595			600
Thr Ser Gly Met	Ile His Ala Cys Leu	Ala Arg Leu Leu Lys Glu			
	605	610			615
Leu Lys Gly Arg	Ile Thr Leu Thr Ile	Val Ser Trp Pro Gly Thr			
	620	625			630
Phe Leu					



<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
 ccaaagtgat catttgaaaa agagatatcc acatcttcaa gcccatataa 50  
 aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100  
 ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150  
 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcgттаac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctgggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttctgcttg ggtcacccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctcttgtttt atcttttcaa agaaatacat ccttggttta cactcaaaag 700  
 tcaaattaaa ttctttccca atgccccaac taattttgag attcagtcag 750  
 aaaatataaa tgctgtatatt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
   1                  5                  10                  15  
 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
                   20                  25                  30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
                   35                  40                  45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
                   50                  55                  60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
                   65                  70                  75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
                   80                  85                  90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln	95	100	105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr	110	115	120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu	125	130	135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys	140	145	150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys	155	160	165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala	170	175	180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
 ggcacgagcc aggaactagg aggttctcac tgcccagagca gaggccctac 50  
 acccaccgag gcatggggct ccttgggctg ttctgcttgg ccgtgctggc 100  
 tgccagcagc ttctccaagg cacgggagga agaaattacc cctgtggtct 150  
 ccattgccta caaagtcttg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcacccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccaccgagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggctgc ctccacctca ggtgcccatg tggacagtgc 400  
 caggctacag atgcactggg agctgtggtc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagcccacct atcaccaaca gcctgatcgg 550  
 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc ctctctgccg agccagacat cggactgggt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgccccc 700  
 aggtggtgac cagaagatgg aggactggca gggccccctg gagagcccca 750  
 tccttgccctt gccgctctac aggagcaccg gccgtctgag tgaagaggag 800  
 tttggggggg tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtatttggg gttcatgcaa aatgagtgtg 950

ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met	Gly	Leu	Pro	Gly	Leu	Phe	Cys	Leu	Ala	Val	Leu	Ala	Ala	Ser	
1				5					10					15	
Ser	Phe	Ser	Lys	Ala	Arg	Glu	Glu	Glu	Ile	Thr	Pro	Val	Val	Ser	
				20					25					30	
Ile	Ala	Tyr	Lys	Val	Leu	Glu	Val	Phe	Pro	Lys	Gly	Arg	Trp	Val	
				35					40					45	
Leu	Ile	Thr	Cys	Cys	Ala	Pro	Gln	Pro	Pro	Pro	Pro	Ile	Thr	Tyr	
				50					55					60	
Ser	Leu	Cys	Gly	Thr	Lys	Asn	Ile	Lys	Val	Ala	Lys	Lys	Val	Val	
				65					70					75	
Lys	Thr	His	Glu	Pro	Ala	Ser	Phe	Asn	Leu	Asn	Val	Thr	Leu	Lys	
				80					85					90	
Ser	Ser	Pro	Asp	Leu	Leu	Thr	Tyr	Phe	Cys	Arg	Ala	Ser	Ser	Thr	
				95					100					105	
Ser	Gly	Ala	His	Val	Asp	Ser	Ala	Arg	Leu	Gln	Met	His	Trp	Glu	
				110					115					120	
Leu	Trp	Ser	Lys	Pro	Val	Ser	Glu	Leu	Arg	Ala	Asn	Phe	Thr	Leu	
				125					130					135	
Gln	Asp	Arg	Gly	Ala	Gly	Pro	Arg	Val	Glu	Met	Ile	Cys	Gln	Ala	
				140					145					150	
Ser	Ser	Gly	Ser	Pro	Pro	Ile	Thr	Asn	Ser	Leu	Ile	Gly	Lys	Asp	
				155					160					165	
Gly	Gln	Val	His	Leu	Gln	Gln	Arg	Pro	Cys	His	Arg	Gln	Pro	Ala	
				170					175					180	
Asn	Phe	Ser	Phe	Leu	Pro	Ser	Gln	Thr	Ser	Asp	Trp	Phe	Trp	Cys	
				185					190					195	
Gln	Ala	Ala	Asn	Asn	Ala	Asn	Val	Gln	His	Ser	Ala	Leu	Thr	Val	
				200					205					210	
Val	Pro	Pro	Gly	Gly	Asp	Gln	Lys	Met	Glu	Asp	Trp	Gln	Gly	Pro	
				215					220					225	
Leu	Glu	Ser	Pro	Ile	Leu	Ala	Leu	Pro	Leu	Tyr	Arg	Ser	Thr	Arg	
				230					235					240	
Arg	Leu	Ser	Glu	Glu	Glu	Phe	Gly	Gly	Phe	Arg	Ile	Gly	Asn	Gly	
				245					250					255	
Glu	Val	Arg	Gly	Arg	Lys	Ala	Ala	Ala	Met						
				260					265						

<210> 224  
<211> 1297  
<212> DNA  
<213> Homo sapiens

<400> 224  
ggtccttaat ggcagcagcc gccgctacca agatccttct gtgcctcccg 50  
cttctgctcc tgctgtccgg ctgggtcccgg gctgggagag ccgaccctca 100  
ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
ggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttcactat 200  
gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
aaatgtcaca acggcctgga aagcacagaa ccagtgactg agagaggtgg 300  
tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
cccaaggaac ccctcacctc gcaggcaagg atgtcttctg agcagaaagc 400  
tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
tcctcctctt tgactcagag aagagaatgt ggacaacggg tcatcctgga 500  
gccagaaaga tgaaagaaaa gtgggagaat gacaagggtt tggccatgtc 550  
cttccattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
atgtcctcag gcacaacca actcagggcc acagccacca ccctcatcct 700  
ttgctgcctc ctcatcatcc tcccctgctt catcctccct ggcatctgag 750  
gagagtcctt tagagtgaca gggttaaagct gataccaaaa ggctcctgtg 800  
agcacgggtc tgatcaaact cgcccttctg tctggccagc tgcccacgac 850  
ctacggtgta tgtccagtgg cctccagcag atcatgatga catcatggac 900  
ccaatagctc attcactgcc ttgattcctt ttgccaacaa ttttaccagc 950  
agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
ttcctgcact taaagttctg gctgactaaa caagatatat cattttcttt 1050  
cttctctttt tgtttgaaa atcaagtact tctttgaatg atgatctctt 1100  
tcttgcaaat gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
tggggattct ttccgtgtcc tgaaagagaa tttttaaatt atttaataag 1200  
aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
<211> 246  
<212> PRT  
<213> Homo sapiens

<400> 225

```

Met Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu
 1          5          10          15

Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro
          20          25          30

His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro
          35          40          45

Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr
          50          55          60

Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser
          65          70          75

Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln
          80          85          90

Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu
          95          100          105

Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr
          110          115          120

Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser
          125          130          135

Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu
          140          145          150

Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala
          155          160          165

Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met
          170          175          180

Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu
          185          190          195

Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly
          200          205          210

Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr
          215          220          225

Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys
          230          235          240

Phe Ile Leu Pro Gly Ile
          245

```

<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

```

gggaaagcca ttctgaaaac ccatctatac aaactatata ttttcatttc 50

tgctgctagc tgccttgggc ctcacaattt tcattctgtt ttctgacttt 100

caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150

```

gggttttaatt ttgggtgtag ccctcaccca attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctggt gatcaaaaga 250  
 gaatttggat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
 atggcaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctgggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatattt tcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaatg catttcctgt atcatccttt tcaataaact 700  
 gtattcattt tgaaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
 gttctccttt ccgagccaaa atcccaggcg atggtgaatt atgaacgtgc 50  
 cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100

tgccatcctg ctcccgttcg tctacctcac ggcgcaagtg tggattctgt 150  
 gtgcagccat cgctgctgcc gcctcagccg ggccccagaa ctgcccctcc 200  
 gtttgctcgt gcagtaacca gttcagcaag gtgggtgtgca cgcgccgggg 250  
 cctctccgag gtcccgcagg gtattccctc gaacaccogg tacctcaacc 300  
 tcatggagaa caacatccag atgatccagg ccgacacctt ccgccacctc 350  
 caccacctgg aggtcctgca gttgggcagg aactccatcc ggcagattga 400  
 ggtggggggc ttcaacggcc tggccagcct caacaccctg gagctgttcg 450  
 acaactggct gacagtcata cctagcgggg cctttgaata cctgtccaag 500  
 ctgcggggagc tctggcttcg caacaacccc atcgaaagca tcccctctta 550  
 cgccttcaac cgggtgccct cctcatgag cctggacttg ggggagctca 600  
 agaagctgga gtatatctct gagggagctt ttgaggggct gttcaacctc 650  
 aagtatctga acttgggcat gtgcaacatt aaagacatgc ccaatctcac 700  
 ccccctggtg gggctggagg agctggagat gtcaggggaa cacttccctg 750  
 agatcaggcc tggctccttc catggcctga gctccctcaa gaagctctgg 800  
 gtcatgaact cacaggtcag cctgattgag cggaatgctt ttgacgggct 850  
 ggcttcactt gtggaactca acttggccca caataacctc tcttctttgc 900  
 cccatgacct ctttaccocg ctgaggtacc tgggtggagt gcactctacac 950  
 cacaacctt ggaactgtga ttgtgacatt ctgtggctag cctgggtggct 1000  
 tcgagagtat ataccacca attccacctg ctgtggccgc tgtcatgctc 1050  
 ccatgcacat gcgaggccgc tacctcgtgg aggtggacca ggctccttc 1100  
 cagtgtcttg ccccttcat catggagcga cctcgagacc tcaacatttc 1150  
 tgagggtcgg atggcagaac ttaagtgtcg gactccccct atgtcctccg 1200  
 tgaagtgggt gctgccaat gggacagtgc tcagccacgc ctcccgccac 1250  
 ccaaggatct ctgtcctcaa cgacggcaac ttgaactttt cccacgtgct 1300  
 gctttcagac actggggtgt acacatgcat ggtgaccaat gttgcaggca 1350  
 actccaacgc ctcggcctac ctcaatgtga gcacggctga gcttaacacc 1400  
 tccaactaca gcttcttcac cacagtaaca gtggagacca cggagatctc 1450  
 gcctgaggac acaacgcgaa agtacaagcc tgctcctacc acgtccactg 1500  
 gttaccagcc ggcatatacc acctctacca cgggtgctcat tcagactacc 1550  
 cgtgtgcca agcagggtgg agtaccocg acagacacca ctgacaagat 1600  
 gcagaccagc ctggatgaag toatgaagac caccaagatc atcattggct 1650  
 gctttgtggc agtgactctg ctagctgccg ccatgttgat tgtcttctat 1700

aaacttcgta agcggcacca gcagcggagt acagtcacag ccgcccggac 1750  
 tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgctg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaca gcctggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga cccataccaa ggacaaggta 2000  
 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229  
 <211> 653  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Lys Leu Leu Trp Gln Val Thr Val His His His Thr Trp Asn  
 1 5 10 15  
 Ala Ile Leu Leu Pro Phe Val Tyr Leu Thr Ala Gln Val Trp Ile  
 20 25 30  
 Leu Cys Ala Ala Ile Ala Ala Ala Ala Ser Ala Gly Pro Gln Asn  
 35 40 45  
 Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val Val  
 50 55 60  
 Cys Thr Arg Arg Gly Leu Ser Glu Val Pro Gln Gly Ile Pro Ser  
 65 70 75  
 Asn Thr Arg Tyr Leu Asn Leu Met Glu Asn Asn Ile Gln Met Ile  
 80 85 90  
 Gln Ala Asp Thr Phe Arg His Leu His His Leu Glu Val Leu Gln  
 95 100 105  
 Leu Gly Arg Asn Ser Ile Arg Gln Ile Glu Val Gly Ala Phe Asn  
 110 115 120  
 Gly Leu Ala Ser Leu Asn Thr Leu Glu Leu Phe Asp Asn Trp Leu  
 125 130 135  
 Thr Val Ile Pro Ser Gly Ala Phe Glu Tyr Leu Ser Lys Leu Arg  
 140 145 150  
 Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser Tyr  
 155 160 165  
 Ala Phe Asn Arg Val Pro Ser Leu Met Arg Leu Asp Leu Gly Glu  
 170 175 180  
 Leu Lys Lys Leu Glu Tyr Ile Ser Glu Gly Ala Phe Glu Gly Leu



	185	190	195
Phe Asn Leu Lys	Tyr Leu Asn Leu Gly	Met Cys Asn Ile Lys	Asp
	200	205	210
Met Pro Asn Leu	Thr Pro Leu Val Gly	Leu Glu Glu Leu Glu	Met
	215	220	225
Ser Gly Asn His	Phe Pro Glu Ile Arg	Pro Gly Ser Phe His	Gly
	230	235	240
Leu Ser Ser Leu	Lys Lys Leu Trp Val	Met Asn Ser Gln Val	Ser
	245	250	255
Leu Ile Glu Arg	Asn Ala Phe Asp Gly	Leu Ala Ser Leu Val	Glu
	260	265	270
Leu Asn Leu Ala	His Asn Asn Leu Ser	Ser Leu Pro His Asp	Leu
	275	280	285
Phe Thr Pro Leu	Arg Tyr Leu Val Glu	Leu His Leu His His	Asn
	290	295	300
Pro Trp Asn Cys	Asp Cys Asp Ile Leu	Trp Leu Ala Trp Trp	Leu
	305	310	315
Arg Glu Tyr Ile	Pro Thr Asn Ser Thr	Cys Cys Gly Arg Cys	His
	320	325	330
Ala Pro Met His	Met Arg Gly Arg Tyr	Leu Val Glu Val Asp	Gln
	335	340	345
Ala Ser Phe Gln	Cys Ser Ala Pro Phe	Ile Met Asp Ala Pro	Arg
	350	355	360
Asp Leu Asn Ile	Ser Glu Gly Arg Met	Ala Glu Leu Lys Cys	Arg
	365	370	375
Thr Pro Pro Met	Ser Ser Val Lys Trp	Leu Leu Pro Asn Gly	Thr
	380	385	390
Val Leu Ser His	Ala Ser Arg His Pro	Arg Ile Ser Val Leu	Asn
	395	400	405
Asp Gly Thr Leu	Asn Phe Ser His Val	Leu Leu Ser Asp Thr	Gly
	410	415	420
Val Tyr Thr Cys	Met Val Thr Asn Val	Ala Gly Asn Ser Asn	Ala
	425	430	435
Ser Ala Tyr Leu	Asn Val Ser Thr Ala	Glu Leu Asn Thr Ser	Asn
	440	445	450
Tyr Ser Phe Phe	Thr Thr Val Thr Val	Glu Thr Thr Glu Ile	Ser
	455	460	465
Pro Glu Asp Thr	Thr Arg Lys Tyr Lys	Pro Val Pro Thr Thr	Ser
	470	475	480
Thr Gly Tyr Gln	Pro Ala Tyr Thr Thr	Ser Thr Thr Val Leu	Ile
	485	490	495
Gln Thr Thr Arg	Val Pro Lys Gln Val	Ala Val Pro Ala Thr	Asp



[illegible]

tgaagcagtg tgggcctgaa gtgtgatttg gcctgtgaac ttggctgtgc 2300  
cagggcttct gacttcaggg acaaaactca gtgaaggggtg agtagacctc 2350  
cattgctgggt aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
aacctctcca ctccactgac ctggtggtct tccccactt tcagttatac 2500  
gaatgccatc agcttgacca gggaagatct gggcttcatg aggccccttt 2550  
tgaggctctc aagtctaga gagctgcctg tgggacagcc cagggcagca 2600  
gagctgggat gtggtgcatg cttttgtgta catggccaca gtacagtctg 2650  
gtccttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700  
gcttctgaac tacaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2800  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846

<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
1 5 10 15  
Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 25 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe	Val	Met	Leu	Ser	Leu	Glu	Phe	Asp	Tyr	Met	Cys	Gln	Tyr	Asp	
				170					175					180	
Tyr	Val	Glu	Val	Arg	Asp	Gly	Asp	Asn	Arg	Asp	Gly	Gln	Ile	Ile	
				185					190					195	
Lys	Arg	Val	Cys	Gly	Asn	Glu	Arg	Pro	Ala	Pro	Ile	Gln	Ser	Ile	
				200					205					210	
Gly	Ser	Ser	Leu	His	Val	Leu	Phe	His	Ser	Asp	Gly	Ser	Lys	Asn	
				215					220					225	
Phe	Asp	Gly	Phe	His	Ala	Ile	Tyr	Glu	Glu	Ile	Thr	Ala	Cys	Ser	
				230					235					240	
Ser	Ser	Pro	Cys	Phe	His	Asp	Gly	Thr	Cys	Val	Leu	Asp	Lys	Ala	
				245					250					255	
Gly	Ser	Tyr	Lys	Cys	Ala	Cys	Leu	Ala	Gly	Tyr	Thr	Gly	Gln	Arg	
				260					265					270	
Cys	Glu	Asn	Leu	Leu	Glu	Glu	Arg	Asn	Cys	Ser	Asp	Pro	Gly	Gly	
				275					280					285	
Pro	Val	Asn	Gly	Tyr	Gln	Lys	Ile	Thr	Gly	Gly	Pro	Gly	Leu	Ile	
				290					295					300	
Asn	Gly	Arg	His	Ala	Lys	Ile	Gly	Thr	Val	Val	Ser	Phe	Phe	Cys	
				305					310					315	
Asn	Asn	Ser	Tyr	Val	Leu	Ser	Gly	Asn	Glu	Lys	Arg	Thr	Cys	Gln	
				320					325					330	
Gln	Asn	Gly	Glu	Trp	Ser	Gly	Lys	Gln	Pro	Ile	Cys	Ile	Lys	Ala	
				335					340					345	
Cys	Arg	Glu	Pro	Lys	Ile	Ser	Asp	Leu	Val	Arg	Arg	Arg	Val	Leu	
				350					355					360	
Pro	Met	Gln	Val	Gln	Ser	Arg	Glu	Thr	Pro	Leu	His	Gln	Leu	Tyr	
				365					370					375	
Ser	Ala	Ala	Phe	Ser	Lys	Gln	Lys	Leu	Gln	Ser	Ala	Pro	Thr	Lys	
				380					385					390	
Lys	Pro	Ala	Leu	Pro	Phe	Gly	Asp	Leu	Pro	Met	Gly	Tyr	Gln	His	
				395					400					405	
Leu	His	Thr	Gln	Leu	Gln	Tyr	Glu	Cys	Ile	Ser	Pro	Phe	Tyr	Arg	
				410					415					420	
Arg	Leu	Gly	Ser	Ser	Arg	Arg	Thr	Cys	Leu	Arg	Thr	Gly	Lys	Trp	
				425					430					435	
Ser	Gly	Arg	Ala	Pro	Ser	Cys	Ile	Pro	Ile	Cys	Gly	Lys	Ile	Glu	
				440					445					450	
Asn	Ile	Thr	Ala	Pro	Lys	Thr	Gln	Gly	Leu	Arg	Trp	Pro	Trp	Gln	
				455					460					465	
Ala	Ala	Ile	Tyr	Arg	Arg	Thr	Ser	Gly	Val	His	Asp	Gly	Ser	Leu	
				470					475					480	

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn	485	490	495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly	500	505	510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly	515	520	525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser	530	535	540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile	545	550	555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala	560	565	570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg	575	580	585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly	590	595	600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp	605	610	615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys	620	625	630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp	635	640	645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile	650	655	660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly	665	670	675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser	680	685	690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe	695	700	705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys	710	715	720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgccctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgccca ttcaagagat tcctaaagca 250  
aaggagtcca tggctaattt ccataagacc ctcatTTtgg ggaaggga 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tccaagcat ctggtgggtg gcaggaacag cactgggtac aggttacgtt 800  
acagtggata ttttgggggt gttactgccc taagcagaga gcagtttttc 850  
aagggtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tcccggcccc 950  
tgccctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
 ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
 aacacaatcc tttatatatc aacatcacag tggattttctg gtttggtgca 1150  
 tgaccctgga tcttttggtg atgtttggaa gaactgattc tttgtttgca 1200  
 ataatttttg cctagagact tcaaatagta gcacacatta agaacctgtt 1250  
 acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
 ctcttggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
 tcattttgat catgaggggtt aaatattgta atatggatac ttgaaggact 1400  
 ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
 tggttgaagg agattttattt aaatttgaag taatatatta tgggataaaa 1500  
 ggccacagga aataagactg ctgaatgtct gagagaacca gagttgttct 1550  
 cgtccaaggt agaaaggtag gaagatacaa tactgttatt cattttatcct 1600  
 gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650  
 gaggggagaa aaggcgacga atcaggacac agtgaacttg ggaatgaaga 1700  
 ggtagcagga ggggtggagtg tcggctgcaa aggcagcagt agctgagctg 1750  
 gttgcaggtg ctgatagcct tcaggggagg acctgcccag gtatgccttc 1800  
 cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
 tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
 acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
 gtgaaaaagc aaaa 1964

<210> 236  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-27  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 4-7, 220-223, 335-338  
 <223> N-glycosylation sites

<220>  
 <221> Xylose isomerase proteins  
 <222> 191-201  
 <223> Xylose isomerase proteins

<400> 236  
 Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu  
 1 5 10 15



Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	
				20					25					30	
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	
				35					40					45	
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	
				50					55					60	
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	
				65					70					75	
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	
				80					85					90	
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	
				95					100					105	
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	
				110					115					120	
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	
				125					130					135	
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	
				140					145					150	
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	
				155					160					165	
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	
				170					175					180	
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	
				185					190					195	
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	
				200					205					210	
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	
				215					220					225	
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	
				230					235					240	
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	
				245					250					255	
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	
				260					265					270	
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	
				275					280					285	
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	
				290					295					300	
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	
				305					310					315	
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	
				320					325					330	

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
 335 340

<210> 237  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 237  
 ccttacctca gaggccagag caagc 25

<210> 238  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 238  
 gagcttcacgc cgttctgcgt tcacc 25

<210> 239  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 239  
 caggaatgta aagctttaca gagggtcgcc atcctcgttc cccacc 46

<210> 240  
 <211> 2567  
 <212> DNA  
 <213> Homo sapiens

<400> 240  
 cgtgggccgg ggtcgcgcag cgggctgtgg gcgcgcccgg aggagcgacc 50  
 gccgcagttc tcgagctcca gctgcattcc ctccgcgtcc gcccacgct 100  
 tctcccgctc cgggccccgc aatggcccag gcagtgtggt cgcgcctcgg 150  
 ccgcatactc tggtttgcct gcctcctgcc ctgggccccg gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcgggtg tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgaag ccacactcta ccgcttcac tggtatccaca 350  
 ccccgctggt gcttactggc aagatggaga aggtctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgctgac tgotggatgt gccagcctgt ggccaggggc tttgtgtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgtcac ccagaacact 550

[illegible]

cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
 atatcacctt attttatcga aacccatctg tgaaactttc actgaggaaa 2250  
 aggccttgca gcggtagaag aggttgagtc aaggccgggc gcggtggctc 2300  
 acgcctgtaa tcccagcact ttgggaggcc gaggcgggtg gatcacgaga 2350  
 tcaggagatc gagaccaccc tggctaacac ggtgaaaccc cgtctctact 2400  
 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtgc ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcatg agcccagatg gcgccactgc actccagcct gagtgcacaga 2550  
 gcgagactct gtctcca 2567

<210> 241

<211> 423

<212> PRT

<213> Homo sapiens

<400> 241

Met	Ala	Gln	Ala	Val	Trp	Ser	Arg	Leu	Gly	Arg	Ile	Leu	Trp	Leu	1	5	10	15
Ala	Cys	Leu	Leu	Pro	Trp	Ala	Pro	Ala	Gly	Val	Ala	Ala	Gly	Leu	20	25	30	
Tyr	Glu	Leu	Asn	Leu	Thr	Thr	Asp	Ser	Pro	Ala	Thr	Thr	Gly	Ala	35	40	45	
Val	Val	Thr	Ile	Ser	Ala	Ser	Leu	Val	Ala	Lys	Asp	Asn	Gly	Ser	50	55	60	
Leu	Ala	Leu	Pro	Ala	Asp	Ala	His	Leu	Tyr	Arg	Phe	His	Trp	Ile	65	70	75	
His	Thr	Pro	Leu	Val	Leu	Thr	Gly	Lys	Met	Glu	Lys	Gly	Leu	Ser	80	85	90	
Ser	Thr	Ile	Arg	Val	Val	Gly	His	Val	Pro	Gly	Glu	Phe	Pro	Val	95	100	105	
Ser	Val	Trp	Val	Thr	Ala	Ala	Asp	Cys	Trp	Met	Cys	Gln	Pro	Val	110	115	120	
Ala	Arg	Gly	Phe	Val	Val	Leu	Pro	Ile	Thr	Glu	Phe	Leu	Val	Gly	125	130	135	
Asp	Leu	Val	Val	Thr	Gln	Asn	Thr	Ser	Leu	Pro	Trp	Pro	Ser	Ser	140	145	150	
Tyr	Leu	Thr	Lys	Thr	Val	Leu	Lys	Val	Ser	Phe	Leu	Leu	His	Asp	155	160	165	
Pro	Ser	Asn	Phe	Leu	Lys	Thr	Ala	Leu	Phe	Leu	Tyr	Ser	Trp	Asp	170	175	180	
Phe	Gly	Asp	Gly	Thr	Gln	Met	Val	Thr	Glu	Asp	Ser	Val	Val	Tyr	185	190	195	

Tyr	Asn	Tyr	Ser	Ile	Ile	Gly	Thr	Phe	Thr	Val	Lys	Leu	Lys	Val	
				200					205					210	
Val	Ala	Glu	Trp	Glu	Glu	Val	Glu	Pro	Asp	Ala	Thr	Arg	Ala	Val	
				215					220					225	
Lys	Gln	Lys	Thr	Gly	Asp	Phe	Ser	Ala	Ser	Leu	Lys	Leu	Gln	Glu	
				230					235					240	
Thr	Leu	Arg	Gly	Ile	Gln	Val	Leu	Gly	Pro	Thr	Leu	Ile	Gln	Thr	
				245					250					255	
Phe	Gln	Lys	Met	Thr	Val	Thr	Leu	Asn	Phe	Leu	Gly	Ser	Pro	Pro	
				260					265					270	
Leu	Thr	Val	Cys	Trp	Arg	Leu	Lys	Pro	Glu	Cys	Leu	Pro	Leu	Glu	
				275					280					285	
Glu	Gly	Glu	Cys	His	Pro	Val	Ser	Val	Ala	Ser	Thr	Ala	Tyr	Asn	
				290					295					300	
Leu	Thr	His	Thr	Phe	Arg	Asp	Pro	Gly	Asp	Tyr	Cys	Phe	Ser	Ile	
				305					310					315	
Arg	Ala	Glu	Asn	Ile	Ile	Ser	Lys	Thr	His	Gln	Tyr	His	Lys	Ile	
				320					325					330	
Gln	Val	Trp	Pro	Ser	Arg	Ile	Gln	Pro	Ala	Val	Phe	Ala	Phe	Pro	
				335					340					345	
Cys	Ala	Thr	Leu	Ile	Thr	Val	Met	Leu	Ala	Phe	Ile	Met	Tyr	Met	
				350					355					360	
Thr	Leu	Arg	Asn	Ala	Thr	Gln	Gln	Lys	Asp	Met	Val	Glu	Asn	Pro	
				365					370					375	
Glu	Pro	Pro	Ser	Gly	Val	Arg	Cys	Cys	Cys	Gln	Met	Cys	Cys	Gly	
				380					385					390	
Pro	Phe	Leu	Leu	Glu	Thr	Pro	Ser	Glu	Tyr	Leu	Glu	Ile	Val	Arg	
				395					400					405	
Glu	Asn	His	Gly	Leu	Leu	Pro	Pro	Leu	Tyr	Lys	Ser	Val	Lys	Thr	
				410					415					420	

Tyr Thr Val

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 242  
 catttcctta ccttgaccc agctcc 26

<210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgacccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggcccgt tgcctcctgc tcctcctcct cctcgccagc 100  
ctgaccagtg gctctgtttt ccacaaacag acgggacaac ttgcagagct 150  
gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccaacttcc ccatctgcat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg cccccgtccc ctcccttctc tattttattcc tgctgcccc 350  
gaacataggt cttggaataa aatggctggg ttttttgttt tccccaaaaa 400  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tcctgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
ccttctcggt ttcatcatag tgccagccat ttttgagtc tcctttggta 200  
tccgcaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcgaggagc caaggagaag aaccaccagc tttacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcaact gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caacactcca 400  
gagttcgagc tctctgacat tttctacttt tgccggaaag gaatggagac 450  
cattatggat gatgaggatg caaagagatt ctgagcagaa gaactggagt 500  
cctggaacct gctgagcaga accaattata acttcagta catcagcctt 550  
cggctcacgg tcctgtgggg gttaggagtg ctgattcggg actgctttct 600  
gctgccgctc aggatagcac tggctttcac agggattagc cttctggtgg 650  
tgggcacaac tgtggtggga tacttgccaa atgggaggtt taaggaattc 700  
atgagtaaac atgttcactt aatgtgttac cggatctgag tgcgagcgct 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaaatggtg 800  
gcatctgtgt ggccaatcat acctcaccga tcgatgtgat catcttgccc 850  
agcgatggct attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900  
tgtgattcag agagccatgg tgaaggcctg ccacacagtc tggtttgagc 950  
gctcggaagt gaaggatcgc cacctggtgg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatcctc atcttcccag aaggaacctg 1050  
catcaataat acatcgggtg tgatgttcaa aaagggaagt tttgaaattg 1100  
gagccacagt ttaccctggt gctatcaagt atgaccctca atttggcgat 1150  
gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200  
gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250  
ctagagagggc agatgaagat gctgtccagt ttgcgaatag ggtgaaatct 1300  
gccattgcca ggcagggagg acttgtggac ctgctgtggg atgggggcct 1350







Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
 gcccctcgaa accaggactc cagcacctct ggtccccgcc tcacccggac 50  
 ccctggccct caggtctcct ccagggatgg cgctggcggc tttgatgac 100  
 gccctcggca gcctcggcct ccacacctgg caggcccagg ctgttccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgtgg 200  
 gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
 atggcccacc atgccctgct gcgggaatcc tgggaggcag ccaggagac 300  
 ctgggaggac aagcgtcgag ggcttacctt gccccctggc ttcaaagccc 350  
 agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
 tgggagttga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
 catgaggcac tttcccttca aggccctgca tttctacctg atccgggccc 500  
 tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggaggtg 550  
 gtgttccgag gtgtgggcag ccttcgcttt gaacccaaga ggctggggga 600  
 ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
 cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
 cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
 tctgtctctt gccctggag agttccagct ctcaagggtt gggccctgaa 800  
 agtccaacat ctgccactta ggagccctgg gaacgggtga cttcatatg 850  
 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggtg gagggaaact tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtggt gcaatgtgga 1050

gacatggagt tttattgagg tagctacgtg attaaatggt attgcagtgt 1100

gga 1103

<210> 250

<211> 240

<212> PRT

<213> Homo sapiens

<400> 250

Met Ala Leu Ala Ala Leu Met Ile Ala Leu Gly Ser Leu Gly Leu  
1 5 10 15

His Thr Trp Gln Ala Gln Ala Val Pro Thr Ile Leu Pro Leu Gly  
20 25 30

Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu  
35 40 45

Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala  
50 55 60

His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr  
65 70 75

Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys  
80 85 90

Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn  
95 100 105

Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly Gly  
110 115 120

Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His  
125 130 135

Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly  
140 145 150

Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser  
155 160 165

Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly  
170 175 180

Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe  
185 190 195

Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu  
200 205 210

Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr  
215 220 225

Leu Leu Leu Ala Pro Gly Glu Phe Gln Leu Ser Gly Val Gly Pro  
230 235 240

<210> 251

<211> 50

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
gtggcttcat ttcagtggct gacttccaga gagcaatatg gctggttccc 50  
caacatgcct caccctcatc tatatccttt ggcagctcac agggtcagca 100  
gcctctggac ccgtgaaaga gctggtcggt tccgttgggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctcagcaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggatgtgatt tatacctgga aggcctggg gcaagcagcc 550  
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
ccagattcct ccattgtcct cctgtgtctc ctgttgggtc cctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850  
cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaact acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
atgccagaca caccaaggct atttgctat gagaatgtta tctagacagc 1050  
agtgcactcc cctaagtctc tgctca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

09989999.1.10001

1	5	10	15
Gln Leu Thr Gly Ser	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val	
20		25	30
Gly Ser Val Gly Gly	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val	
35		40	45
Lys Gln Val Asp Ser	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu	
50		55	60
Val Thr Ile Gln Pro	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn	
65		70	75
Arg Asn Arg Glu Arg	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu	
80		85	90
Lys Leu Ser Lys Leu	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val	
95		100	105
Gly Ile Tyr Ser Ser	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr	
110		115	120
Val Leu His Val Tyr	Glu His Leu Ser	Lys Pro Lys Val Thr Met	
125		130	135
Gly Leu Gln Ser Asn	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr	
140		145	150
Cys Cys Met Glu His	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys	
155		160	165
Ala Leu Gly Gln Ala	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu	
170		175	180
Pro Ile Ser Trp Arg	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys	
185		190	195
Val Ala Arg Asn Pro	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu	
200		205	210
Ala Arg Lys Leu Cys	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser	
215		220	225
Met Val Leu Leu Cys	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu	
230		235	240
Phe Val Leu Gly Leu	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln	
245		250	255
Glu Glu Tyr Ile Glu	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu	
260		265	270
Thr Pro Asn Ile Cys	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp	
275		280	285
Thr Ile Pro His Thr	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala	
290		295	300
Asn Thr Val Tyr Ser	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn	
305		310	315
Pro His Ser Leu Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala	

320 325 330

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
ctggttcccc aacatgcctc accctcatct atatacctttg gcagctcaca 50  
gggtcagcag cctctggacc cgtgaaagag ctggtcgggtt ccgttggtgg 100  
ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacctt caacacaacc cctcttgta ccatacagcc agaagggggc 200  
actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250  
tgaggaggctac tccctgaagc tcagcaaact gaagaagaat gactcaggga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcaccat 400  
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500  
caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550  
atggggagaa agtgatatga ccttcatctg cgttgccagg aacctgtca 600  
gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
gctgatgacc cagattcctc catggtcctc ctgtgtctcc tgttggtgcc 700  
cctcctgctc agtctctttg tactggggct atttctttgg tttctgaaga 750  
gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800  
cgggaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
ctgctcacga tgccagacac accaaggcta ttgacctatg agaatgttat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
gaaagacgtg gtcctgacag acagacaatc ctattcccta ccaaaatgaa 50



Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257  
 <211> 766  
 <212> DNA  
 <213> Homo sapiens

<400> 257  
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
 gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100  
 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaatatt 150  
 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200  
 agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
 agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350  
 ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400  
 ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtgggtttt caatgactct tgtgcacctc ctactgggttt 500  
 caataaacc accagtaacg acaccatggc gagggtgctg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccactttctca 600  
 gtatttttag gtctattgct tgttggaatt ctggagggtcc tgtttgggct 650  
 cagtcagata gtcacgggtt tccttggtg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15  
 Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30  
 Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile





tcaacacggtt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15

Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30

Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45

Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60

Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75

Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccgttctc tgcgctgccca gctcaggtga gccctcgcca aggtgacctc 50

gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100

ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150

cgccccagtg cctctcccc tgcagccctg cccctogaac tgtgacatgg 200

agagagtgc cctggccctt ctctactgg caggcctgac tgccttgga 250

gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300

aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350

ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400

cagcacagtc ctgtacctga gaaggccatc ccaactcatca ctocaggctc 450

tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500

taacactggc cccagcacc tcctcccctg ggaggcctta tcctcaagga 550

aggacttctc tccaagggca ggtgttagg cccctttctg atcaggaggc 600

ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262

Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
1 5 10 15

Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
20 25 30

Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
35 40 45

Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
50 55 60

Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
65 70 75

Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
80 85

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50

ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatgggt 100

actcctgctg ctggttgtgg gctcctgggt actcgccgc atcctggctt 150

ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200

ccccaaaac ggaactggtt ttggggtcac ctgggctga tcaactctac 250

agaggagggc ttgaaggact cgaccagat gtcggccacc tattccag 300

gctttacggt atggctgggt cccatcatcc ccttcatogt tttatgccac 350

cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcaccaa 400

ggataatctc ttcacaggt tcctgaagcc ctggctggga gaaggatac 450

tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgcc 500

gccttccatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550

tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600

gtcgtctgga catgtttgag cacatcagcc tcattgacctt ggacagtcta 650

cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700

atatattgcc accatcttgg agctcagtg ccttgtagag aaaagaagcc 750

agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800

cggcgcttcc acagggcctg ccgcctgggtg catgacttca cagacgctgt 850

catccgggag cggcgtcgca ccctccccac tcagggtatt gatgattttt 900

tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
tgccgacagg aggtgcaaga gcttctgaag gaccgogatc ctaaagagat 1150  
tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
agagcctgag gttacatccc ccagctccct tcatctcccg atgctgcacc 1250  
caggacattg ttctcccaga tggccgagtc atocccaaag gcattacctg 1300  
cctcatcgat attatagggg tccatcaciaa cccaactgtg tggccggatc 1350  
ctgaggtcta cgaccccttc cgctttgacc cagagaacag caaggggagg 1400  
tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
gcaggcggtc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
tgacttccg gttcctgccg gaccacactg agccccgcag gaagctggaa 1550  
ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600  
ttaggcttg cagtgacttt ctgaccatc cacctgtttt tttgcagatt 1650  
gtcatgaata aaacggtgct gtcaaa 1676

<210> 264  
<211> 524  
<212> PRT  
<213> Homo sapiens

<400> 264  
Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
1 5 10 15  
Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
20 25 30  
Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
35 40 45  
Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
50 55 60  
Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
65 70 75  
Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
80 85 90  
Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
95 100 105  
Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
110 115 120  
Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	
				140					145					150	
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	
				155					160					165	
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	
				170					175					180	
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	
				185					190					195	
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	
				200					205					210	
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	
				215					220					225	
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	
				230					235					240	
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	
				245					250					255	
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	
				260					265					270	
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	
				275					280					285	
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	
				290					295					300	
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	
				305					310					315	
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	
				320					325					330	
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	
				335					340					345	
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	
				350					355					360	
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	
				365					370					375	
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	
				380					385					390	
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	
				395					400					405	
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	
				410					415					420	
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	
				425					430					435	
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	
				440					445					450	

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro  
455 460 465

Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val  
470 475 480

Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His  
485 490 495

Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly  
500 505 510

Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln  
515 520

<210> 265  
<211> 584  
<212> DNA  
<213> Homo sapiens

<400> 265  
caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
ctggcctcct gctgtttgct tttcacagga ttcttaaatac ctctcttatac 100  
tcttcctctc cttgactcca gggaaatatac ctttcaactc tcagcacctc 150  
atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
cagatattgc cagagatgct ggggtgcagaa agaggggata ttctcaggaa 250  
agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
ttcaggattt ctctggacaa gacctaaca ttttactgag tcatcttttg 350  
gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
gaaatactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
acctatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
<211> 124  
<212> PRT  
<213> Homo sapiens

<400> 266  
Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
1 5 10 15

Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
20 25 30

Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
35 40 45

Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
50 55 60

Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr  
65 70 75  
Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe  
80 85 90  
Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg  
95 100 105  
Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp  
110 115 120  
Lys Tyr Cys Val

<210> 267  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 267  
gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
cacctctggg atgggggtgc tggtttaaaa caaacgccag tcatoctata 100  
taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
gcctcctgct cctcggcatg ctctggctgg acttggccat ggcaggctcc 250  
agcttcctga gccctgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
gaagccacca gccaaagtgc agccccgagc tctagcaggc tggctcggcc 350  
cggaagatgg aggtcaagca gaaggggagc aggatgaact ggaagtccgg 400  
ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
aggccaaaga ggccccagcc gacaagtgat cgcccacaag ccttactcac 550  
ctctctctaa gtttagaagc gctcatctgg cttttcgctt gcttctgcag 600  
caactcccac gactgttgta caagctcagg aggcgaataa atgttcaaac 650  
tgta 654

<210> 268  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 268  
Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Gly Met  
1 5 10 15  
Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
20 25 30  
Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
35 40 45

111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 503  
 504  
 505  
 506  
 507  
 508  
 509  
 510  
 511  
 512  
 513  
 514  
 515  
 516  
 517  
 518  
 519  
 520  
 521  
 522  
 523  
 524  
 525  
 526  
 527  
 528  
 529  
 530  
 531  
 532  
 533  
 534  
 535  
 536  
 537  
 538  
 539  
 540  
 541  
 542  
 543  
 544  
 545  
 546  
 547  
 548  
 549  
 550  
 551  
 552  
 553  
 554  
 555  
 556  
 557  
 558  
 559  
 560  
 561  
 562  
 563  
 564  
 565  
 566  
 567  
 568  
 569  
 570  
 571  
 572  
 573  
 574  
 575  
 576  
 577  
 578  
 579  
 580  
 581  
 582  
 583  
 584  
 585  
 586  
 587  
 588  
 589  
 590  
 591  
 592  
 593  
 594  
 595  
 596  
 597  
 598  
 599  
 600  
 601  
 602  
 603  
 604  
 605  
 606  
 607  
 608  
 609  
 610  
 611  
 612  
 613  
 614  
 615  
 616  
 617  
 618  
 619  
 620  
 621  
 622

<400> 269					
cggccacagc	tggcatgctc	tgctgatcg	ccatcctgct	gtatgtcctc	50
gtccagtacc	tcgtaaccc	cggggtgctc	cgcacggacc	ccagatgtca	100
agaatatgaa	cacgtggctg	ctgttctctc	ccctgttccc	ggtgcaggtg	150
cagaccctga	tagtcgtgat	catcgggatg	ctcgtgctcc	tgtcggactt	200
tcttggcttg	gtgcacctgg	gccagctgct	catcttccac	atctacctga	250
gtatgtcccc	caccctaagc	ccccgatccc	cccaaggctg	ggtggtcaga	300
gctgctcatc	ttacacctct	acttgagtat	gtccctaacc	ctgagcccc	350
cacgcctggg	gccagagtct	ttgtcccccg	tgtgcgcattg	tgttcagggg	400
cagcctctcc	cagaagtgag	atcatggaca	aaaagggcaa	atcacaggaa	450
gaaattaaat	ccatgaggac	ccagcaggcc	cagcaagaag	ctgaactcac	500
gccgagacct	gcaggagtgg	tgccagggtg	ttgaagtaac	aagtttaaaa	550
tgttcagaga	caatggaatg	gaatctatta	ggcaagaaca	ggacattatg	600
aaataaggac	aggtggactt	caaaaaacac	aagtagaaat	tctaacaatg	650
aaatatatta	caggcaggtc	accactaac	caaacaactg	aagcgagagc	700
tgtggtcttg	cttgggtctc	cagtgggcac	agcggtaggc	ggtcagtcac	750
gttgctgaac	gacggagggt	aaactcccca	gccccaaaga	aacctgtgtt	800
ggaagtaaca	acaacctccc	tgctcctggc	accagccgtt	ttgggtcatg	850
tgggccagct	gcaaagcgtc	ttccattctc	tgggcagtg	tggccccgag	900
gctgtggcct	ctcagggggg	ttctgtggac	acgggcagca	gagtgtgtcc	950
aggccagccc	ccaagaatgc	cctgctcctg	acagcttggc	caaccctgg	1000
tcagggcaga	gggagttggg	tgggtcaggc	tctgggctca	cctccatctc	1050



cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100  
acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
accactgtcc ccacacaacc ctgggggatgt tttaaaacac acacctctaa 1200  
cgcatatctt acagtcactg ttgtcttgcc tgagggttga atttttttta 1250  
atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
<211> 142  
<212> PRT  
<213> Homo sapiens

<400> 270  
Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
1 5 10 15  
Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
20 25 30  
Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
35 40 45  
Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
50 55 60  
Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
65 70 75  
Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
80 85 90  
Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
95 100 105  
Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
110 115 120  
Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
125 130 135  
Ala Gly Val Val Pro Gly Ala  
140

<210> 271  
<211> 1484  
<212> DNA  
<213> Homo sapiens

<400> 271  
ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
accatggcca agatggagct ctgaaggcc ttctctggcc agcggacact 100  
cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccctg 200  
tgcgagaaag gtctggcagc caagtgcttt gacatgccag tgtccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
ctggggatga ccggttctcc ttccggagct tccggagtgg catgtggcta 350  
tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
ccacgttgca aggcccatgt caccctactc tccgatttgg agggaagcgg 500  
ttgatggaga aggttccct cccctccct ccttggggc tttgtggcaa 550  
aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
ttcatcagct tcctcctgct actaacagac ttgctactca ctgggaaccc 650  
tgctgtggg ctcaaactga gcgcctttgc tgcgttttcc tctgtcctgt 700  
caggtctcct ggggatggtg gccacatga tgtattcaca agtcttcaa 750  
gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
tggctggggc ttctacatgg cctggctctc cttcacctgc tgcattggcg 850  
cggctgtcac caccttcaac acgtacacca ggatggtgct ggagttcaag 900  
tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
gagggagtcg acttctactc cgagctgagg aacaaggat ttcaaagagg 1100  
ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
agtgttagga gttaagcggg tttggggagt aggcttgagc cctaccttac 1200  
acgtctgctg attatcaaca tgtgtttaag ccaacatccg tctcttgagc 1250  
atggttttta gaggttacga ataaggctat gaataagggt tatctttaag 1300  
tcctaaggga ttccctgggtg ccaactgctct cttttcctct acagctccat 1350  
cttgtttcac ccacccaca tctcacacat ccagaattcc cttctttact 1400  
gatagtttct gtgccagggt ctgggctaata ccatggagat aaaaagaaga 1450  
gtaaaatata cttcccggacc ttaaggatct gaaa 1484

<210> 272  
<211> 285  
<212> PRT  
<213> Homo sapiens

<400> 272  
Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr  
1 5 10 15  
Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr  
20 25 30  
Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

	35	40	45
Pro Lys Pro Leu Cys Glu Lys Gly Leu Ala Ala Lys Cys Phe Asp	50	55	60
Met Pro Val Ser Leu Asp Gly Asp Thr Asn Thr Ser Thr Gln Glu	65	70	75
Val Val Gln Tyr Asn Trp Glu Thr Gly Asp Asp Arg Phe Ser Phe	80	85	90
Arg Ser Phe Arg Ser Gly Met Trp Leu Ser Cys Glu Glu Thr Val	95	100	105
Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe Ile Glu Leu Thr Pro	110	115	120
Pro Ala Lys Arg Gly Glu Lys Gly Leu Leu Glu Phe Ala Thr Leu	125	130	135
Gln Gly Pro Cys His Pro Thr Leu Arg Phe Gly Gly Lys Arg Leu	140	145	150
Met Glu Lys Ala Ser Leu Pro Ser Pro Pro Leu Gly Leu Cys Gly	155	160	165
Lys Asn Pro Met Val Ile Pro Gly Asn Ala Asp His Leu His Arg	170	175	180
Thr Ser Ile His Gln Leu Pro Pro Ala Thr Asn Arg Leu Ala Thr	185	190	195
His Trp Glu Pro Cys Leu Trp Ala Gln Thr Glu Arg Leu Cys Cys	200	205	210
Cys Phe Leu Cys Pro Val Arg Ser Pro Gly Asp Gly Gly Pro His	215	220	225
Asp Val Phe Thr Ser Leu Pro Ser Asp Cys Gln Leu Gly Ser Arg	230	235	240
Arg Leu Glu Thr Thr Cys Leu Glu Leu Trp Leu Gly Leu Leu His	245	250	255
Gly Leu Ala Leu Leu His Leu Leu His Gly Val Gly Cys His His	260	265	270
Leu Gln His Val His Gln Asp Gly Ala Gly Val Gln Val Gln Ala	275	280	285

<210> 273  
 <211> 1158  
 <212> DNA  
 <213> Homo sapiens

<400> 273  
 aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttaccc 50  
 cttggtctcc tgtctttatg tctttctcct cttcctattc tgtcatctcc 100  
 ctcaacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150  
 ctctggttagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tcctcctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccaggaga aatggaggag cttttagacc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccct 600  
 ggcttggcat ccctggctct ctctgtgtac ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgcctga ataatacaagt gggaagggga agcagaggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaaggga agcaacagga acttctgcaa ctggttttta tcggaaagat 850  
 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactcct tattactttg ggaagtcact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaaccctagt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgcccctg ccacccaaaac aataaaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
 gtagcgcgtc ttgggtctcc cggctgccgc tgctgccgcc gccgcctcgg 50  
 gtcgtggagc caggagcgac gtcaccgccca tggcaggcat caaagctttg 100  
 attagtttgt cctttggagg agcaatcggga ctgatgtttt tgatgcttgg 150  
 atgtgccctt ccaatataca acaaatactg gcccctcttt gttctatttt 200  
 ttacatcct ttcacctatt ccatactgca tagcaagaag attagtggat 250  
 gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tctttcttac 300  
 aacgggcatt gtcgtgtcag cttttggact ccctattgta tttgccagag 350  
 cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
 gtcactcttg caactatact aggctttttc ttggtctttg gaagcaatga 450  
 cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500  
 atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
 gttaatgctg aatggtatag caagcctctt gggggatatt taggtgctcc 600  
 cttctcactt ttattgtaag catactattt tcacagagac ttgctgaagg 650  
 attaaaagga ttttctcttt tggaaaagct tgactgattt cacacttatt 700  
 tatagtatgc tttttgtggt gtccctgctga atttaaatat ttatgtgttt 750  
 ttcctgttag gttgattttt tttggaatca atatgcaatg ttaaacactt 800  
 ttttaatgta atcatttgca ttggttagga attcagaatt ccgcgggctc 850  
 tattactggg caagtacatc ttttctctta aaattattta gctccatta 900  
 ttacaaaaaa ttataaaaat aagttttcag tcagtcagga tgacatcact 950  
 cccaatgtta tgcagacata cagacggttg gcatacgtta tagactgtat 1000  
 actcagtgca aatatagctg catttatacc tcagaggggc caagtgttaa 1050  
 tgcccatgcc ctccgttaag ggttgttggg tttactggta gacagatgtt 1100  
 ttgtggattg aaaattattt tatggaattg ctacagagga gtgcttttct 1150  
 tctcaattgt tagaagaatt tatgttaaac ttttaaggtaa ggggtgtaaaa 1200  
 acatttttga gataaggttt ttatttatgt ttattattgt tagagtgagt 1250  
 tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
 ctattttataa gtgaaatttg tgatctccta tcaacctttc atgtttttacc 1350  
 ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
 gtttgcacat tatatgccag aaaaccttcc tctgcttctt ccttttgact 1450

tatttggtat gttgtatata ttacataaaa taacttttca aatatagttt 1500  
aataacactt agaagtgttt acttacctgg aaaataattg ctatgccgta 1550  
cattcagagt gccccctccc ctgcaaggcc ttgccatgat taacaagtaa 1600  
cttgtagtc ttacagataa ttcatgcatt aacagtttaa gatttagacc 1650  
atggtaatag tagttcttat tctctaagggt tatatcatat gtaatttaaa 1700  
agtattttta agacaagttt cctgtataacc tctgaactgt tttgattttg 1750  
agttcatcat gatagatctg ctgtttcctt ataaaaggca tttgttgtgt 1800  
gagttaatgc aaagtagcca agtccagcta tatagcagct tcagaaacat 1850  
acctgaccaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
gtttacatct aataattatc aggacttttt tcaggagtgg gttataaaaa 1950  
cattcaagtt ggtctgacag tattttgtta aggatatttg tttgtatgtt 2000  
tattcagtat acttacataa aaattatttc gccatcagcc aaaactcagt 2050  
aatcatgaca gctgtctgtt gttttatgaa gtttatttct caagaaaatg 2100  
ggaataaatt tgggatttgt tcagcttttt tactaaagat gcctaaagcc 2150  
acaggtttta ttgcctaact taagccatga cttttagata tgagatgacg 2200  
ggaagcagga cgaaatatcg gcgtgtggct ggagccttcc cactggaggc 2250  
tgaaagtggc ttgtggtatt ataatgttca gatttcaaga ggaaggtgca 2300  
ggtacacatg agttagagag ctgggtgagac agttgggaac tctttgtgct 2350  
tgtgatctac tggacttttt ttttgcagga agtgcattct ctggtccttc 2400  
cctattttct gttctggatg tcagtgcagt gcactgctac tgttttatcc 2450  
acttggccac agactttttc taacagctgc gtattatttc tatatactaa 2500  
ttgcattggc agcatttgtt ctttgacctt gtatactagc ttgacatagt 2550  
gctgtctctg atttctaggc tagttacttg agatatgaat tttccataga 2600  
atatgcactg atacaacatt accattcttc tatggaaaga aaacttttga 2650  
tgatgaaaca ataaagattt taaatatcta ttttaaaaaa aaaa 2694

<210> 276

<211> 131

<212> PRT

<213> Homo sapiens

<400> 276

Met	Ala	Gly	Ile	Lys	Ala	Leu	Ile	Ser	Leu	Ser	Phe	Gly	Gly	Ala
1				5					10					15

Ile	Gly	Leu	Met	Phe	Leu	Met	Leu	Gly	Cys	Ala	Leu	Pro	Ile	Tyr
			20					25						30

Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser

Pro	Ile	Pro	Tyr	Cys	Ile	Ala	Arg	Arg	Leu	Val	Asp	Asp	Thr	Asp
				50					55					60
Ala	Met	Ser	Asn	Ala	Cys	Lys	Glu	Leu	Ala	Ile	Phe	Leu	Thr	Thr
				65					70					75
Gly	Ile	Val	Val	Ser	Ala	Phe	Gly	Leu	Pro	Ile	Val	Phe	Ala	Arg
				80					85					90
Ala	His	Leu	Ile	Glu	Trp	Gly	Ala	Cys	Ala	Leu	Val	Leu	Thr	Gly
				95					100					105
Asn	Thr	Val	Ile	Phe	Ala	Thr	Ile	Leu	Gly	Phe	Phe	Leu	Val	Phe
				110					115					120
Gly	Ser	Asn	Asp	Asp	Phe	Ser	Trp	Gln	Gln	Trp				
				125						130				

<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
 cccacgcgtc cgccacgcg tccgcccacg cgtccgcca cgcgctccgcc 50  
 cacgcgtccg cccacgcgtc cgccacgcg tccggtgcaa gctcgcgccg 100  
 cacactgcct ggtggaggga aggagcccgg gcgcctctcg ccgctccccg 150  
 cgccgcgcgtc cgcacctccc caccgcccgc cgcccgccgc ccgcccgcgc 200  
 caaagcatga gtgagcccgc tctctgcagc tgcccggggc gcgaatggca 250  
 ggctgtttcc gcggagtaaa aggtggcgcc ggtcagtggg cgtttccaat 300  
 gacggacatt aaccagactg tcagatcctg gggagtcgcg agccccgagt 350  
 ttggagtttt ttccccccac aacgtcacag tccgaactgc agagggaaag 400  
 gaaggcggca ggaaggcgaa gtcgaggctc cggcacgtag ttgggaaact 450  
 tgcgggtcct agaagtgcgc tccccgcctt gccggccgcc cttgcagccc 500  
 cgagccgagc agcaaagtga gacattgtgc gcctgccaga tccgccggcc 550  
 gcggaccggg gctgcctcgg aaacacagag gggctcttct tcgccctgca 600  
 tataattagc ctgcacacaa agggagcagc tgaatggagg ttgtcactct 650  
 ctggaaaagg atttctgacc gacgccttcc aatggacatt ctccagtctc 700  
 tctggaaaga ttctcgctaa tggatttctt gctgctcggg ctctgtctat 750  
 actggctgct gaggaggccc tcgggggtgg tcttgtgtct gctgggggcc 800  
 tgctttcaga tgctgcccgc cgccccagc gggtgcccgc agctgtgccg 850  
 gtgcgagggg cggtgctgt actgcgaggc gctcaacctc accgaggcgc 900  
 cccacaacct gtccggcctg ctgggcttgt cctgcgcta caacagcctc 950

tcggagctgc gcgccggcca gttcacgggg ttaatgcagc tcacgtggct 1000  
ctatctggat cacaatcaca tctgctccgt gcagggggac gcctttcaga 1050  
aactgcgccc agttaaggaa ctcacgctga gttccaacca gatcacccaa 1100  
ctgcccaca ccaccttccg gcccatgccc aacctgcgca gcgtggacct 1150  
ctcgtacaac aagctgcagg cgctcgcgcc cgacctcttc cacgggctgc 1200  
ggaagctcac cacgctgcat atgcggggcca acgccatcca gtttgtgccc 1250  
gtgcgcatct tccaggactg ccgcagcctc aagtttctcg acatcggata 1300  
caatcagctc aagagtctgg cgcgcaactc tttcgccggc ttgtttaagc 1350  
tcaccgagct gcacctcgag cacaacgact tggtaaggt gaacttcgcc 1400  
cacttcccgc gcctcatctc cctgcactcg ctctgcctgc ggaggaacaa 1450  
ggtggccatt gtggtcagct cgctggactg ggtttggaac ctggagaaaa 1500  
tggacttgtc gggcaacgag atcgagtaca tggagcccca tgtgttcgag 1550  
accgtgccgc acctgcagtc cctgcagctg gactccaacc gcctcaccta 1600  
catcgagccc cggatcctca actcttgga gtccctgaca agcatcacc 1650  
tggccgggaa cctgtgggat tgcgggcgca acgtgtgtgc cctagcctcg 1700  
tggctcagca acttccagg gcgctacgat ggcaacttgc agtgcgccag 1750  
cccggagtac gcacagggcg aggacgtcct ggacgccgtg tacgccttcc 1800  
acctgtgcca ggatggggcc gagcccacca gcggccacct gctctcgcc 1850  
gtcaccaacc gcagtgatct ggggccccct gccagctcgg ccaccacgct 1900  
cgcgacggc ggggagggc agcacgacgg cacattcgag cctgccaccg 1950  
tggctcttcc aggcggcgag cacgccgaga acgccgtgca gatccacaag 2000  
gtggtcacgg gcacatggc cctcatcttc tccttctca tcgtggtcct 2050  
ggtgctctac gtgtcctgga agtgtttccc agccagcctc aggagctca 2100  
gacagtgtt tgtcacgcag cgaggaagc aaaagcagaa acagaccatg 2150  
catcagatgg ctgccatgtc tgcccaggaa tactacgttg attacaaacc 2200  
gaaccacatt gagggagccc tggatgatc caacagatat ggctcgtgta 2250  
cctgccacca gcagcccgc agggaatgc aggtgtgatt gtcccagtgg 2300  
ctctcaaccc atgcgctacc aaatacgctt gggcagccgg gacgggccc 2350  
cgggcaccag gctggggtct ccttgtctgt gctctgatat gctccttgac 2400  
tgaaacttta aggggatctc tcccagagac ttgacatttt agctttattg 2450  
tgtcttaaaa acaaaagcga attaaaacac aacaaaaaac cccacccac 2500  
aaccttcagg acagtctatc ttaaatttca tatgagaact ccttcctccc 2550



tttgaagatc tgtccatatt caggaatctg agagtgtaaa aaaggtggcc 2600  
 ataagacaga gagagaataa tcgtgctttg ttttatgcta ctccctccac 2650  
 cctgcccattg attaaacatc atgtatgtag aagatcttaa gtccatacgc 2700  
 atttcatgaa gaaccattgg aaagaggaat ctgcaatctg ggagcttaag 2750  
 agcaaatgat gaccatagaa agctatgttc ttactttgtg tgtgtgtctg 2800  
 tatgtttctg cgttgtgtgt cttttagtagc aagcaaacgt tgtctacaca 2850  
 aacgggaatt tagctcacat catttcatgc ccctgtgcct ctagctctgg 2900  
 agattggtgg ggggaggtgg ggggaaacgg caggaataag ggaaagtgg 2950  
 agttttaact aaggttttgt aacacttgaa atcttttctt totcaaatta 3000  
 attatcttta agcttcaaga aacttgcctc gacccctcta agcaaactac 3050  
 taagcattta aaagagaatc taatttttaa aggtgtagca cttttttttt 3100  
 tattcttccc acagaggggtg ctaatctcat tatgctgtgc tatctgaaaa 3150  
 gaacttaagg ccacaattca cgtctcgtcc tgggcattgt gatggattga 3200  
 ccctccattt gcagtacctt cccagctgat taaagttcag cagtggattt 3250  
 gaggtttttc gaatatattat atagaaaaaa agtcttttca catgacaaat 3300  
 gacactctca caccagtctt agccctagta gtttttttagg ttggaccaga 3350  
 ggaagcaggt taaatgagac ctgtcctctg ctgcactcag aaaaaatagg 3400  
 cagtccctga tgctcagatc tttagccttga tattaatagt tgagaccacc 3450  
 taccacaat gcagcctata ctcccaagac tacaaagtta ccatcgcaaa 3500  
 ggaaagggtta ttccagtaaa aggaaatagt tttctcaacc atttaaaaat 3550  
 attcttctga actcatcaaa gtagaagagc ccccaacctt ttctctctgc 3600  
 cttcaagaag gcagacattt ggtatgattt agcatcaaca acacatttat 3650  
 gagtatatgt aagtaatcag aggggcaaat gccacttggt attcctccca 3700  
 agttttccaa gcaagtacac acagatctct ggtaggatta ggggccactt 3750  
 gtgtttccgg cttatttttag tcgacttgtc agcaagtttg atgcctagtc 3800  
 tatctgacat ggcccagtag aacagggcat tgatggatca catgagatgg 3850  
 tagaaggaaac atcatcacat acccctctca cagagaaaat tatcaaagaa 3900  
 ccagaaatta tatctgtttt ggagcaagag tgtcataatg tttcagggtta 3950  
 gtcaaaaataa acataaatta tctcctctag atgagtggcg atgttggctg 4000  
 atttgggtct gccattgaca gaatgtcaaa taaaaggaa ttagctagaa 4050  
 tatgaccatt aaatgtgctt ctgaaatata ttttgagata ggtttagaat 4100  
 gtca 4104

<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

Met	Asp	Phe	Leu	Leu	Leu	Gly	Leu	Cys	Leu	Tyr	Trp	Leu	Leu	Arg	
1				5					10					15	
Arg	Pro	Ser	Gly	Val	Val	Leu	Cys	Leu	Leu	Gly	Ala	Cys	Phe	Gln	
				20					25					30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	
				35					40					45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	
				50					55					60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	
				65					70					75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	
				80					85					90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	
				95					100					105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	
				110					115					120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	
				125					130					135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	
				140					145					150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	
				155					160					165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	
				170					175					180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	
				185					190					195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	
				200					205					210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	
				215					220					225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	
				230					235					240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	
				245					250					255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	
				260					265					270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	
				275					280					285	

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu	290	295	300
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu	305	310	315
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser	320	325	330
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro	335	340	345
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe	350	355	360
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu	365	370	375
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser	380	385	390
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr	395	400	405
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu	410	415	420
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu	425	430	435
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp	440	445	450
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val	455	460	465
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met	470	475	480
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn	485	490	495
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys	500	505	510
Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val				515	520	

<210> 279  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 279  
 tccgtgcagg gggacgcctt tcagaaactg cgccgagtta aggaac 46

<210> 280  
 <211> 709  
 <212> DNA  
 <213> Homo sapiens

<400> 280  
 gtgcaaggag ccgaggcgag atgggcggtcc tgggcccgggt cctgctgtgg 50  
 ctgcagctct gcgcactgac ccaggcggtc tocaaactct gggccccaa 100  
 cacggacttc gacgtcgag ccaactggag ccagaaccgg accccgtgcg 150  
 ccggcgggcg cgttgagttc ccggcggaaca agatgggtgc agtcctggtg 200  
 caagaaggtc acgccgtctc agacatgctc ctgccgctgg atggggaact 250  
 cgtcctgggt tcaggagccg gattcggcgt ctacagcgtg ggctcgcacc 300  
 tggactgtgg cgcgggcgaa cctgccgtct tccggactc tgaccgcttc 350  
 tcctggcatg acccgcacct gtggcgctct ggggacgagg cacctggcct 400  
 cttcttcgtg gacgccgagc gcgtgccctg ccgccacgac gacgtcttct 450  
 ttccgcctag tgctccttc cgcgtggggc tcggccctgg cgctagcccc 500  
 gtgcgtgtcc gcagcatctc ggctctgggc cggacgttca cgcgcgacga 550  
 ggacctgggt gttttcctgg cgtcccgcg cggccgccta cgcttccacg 600  
 ggccggggcg gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
 tgcgtctgcg gcaacgcgga ggcgcagccg tggatctgcg cggccctgct 700  
 ccagcccct 709

<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
 Met Gly Val Leu Gly Arg Val Leu Leu Trp Leu Gln Leu Cys Ala  
 1 5 10 15  
 Leu Thr Gln Ala Val Ser Lys Leu Trp Val Pro Asn Thr Asp Phe  
 20 25 30  
 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro Cys Arg His Asp Asp Val Phe Phe Pro Pro Ser Ala Ser Phe  
140 145 150

Arg Val Gly Leu Gly Pro Gly Ala Ser Pro Val Arg Val Arg Ser  
155 160 165

Ile Ser Ala Leu Gly Arg Thr Phe Thr Arg Asp Glu Asp Leu Ala  
170 175 180

Val Phe Leu Ala Ser Arg Ala Gly Arg Leu Arg Phe His Gly Pro  
185 190 195

Gly Ala Leu Ser Val Gly Pro Glu Asp Cys Ala Asp Pro Ser Gly  
200 205 210

Cys Val Cys Gly Asn Ala Glu Ala Gln Pro Trp Ile Cys Ala Ala  
215 220 225

Leu Leu Gln Pro

<210> 282  
<211> 644  
<212> DNA  
<213> Homo sapiens

<400> 282  
atcgcatcaa ttgggagtag catcttcctc atgggaccag tgaaacagct 50  
gaagcgaatg tttgagccta ctcgtttgat tgcaactatc atggtgctgt 100  
tgtgttttgc acttaccctg tgttctgcct tttggtggca taacaaggga 150  
cttgcaactta tcttctgcat tttgcagtct ttggcattga cgtggtacag 200  
cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250  
tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300  
tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
tacagacatg tgccttttat ctgcagcaa tgtgttgctt gtgattcgaa 400  
catttgaggg ttacttttgg aagcaacaat acattctoga acctgaatgt 450  
cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
cctcatgtac ctgtttcctc tctggatggt gtccactga attcccatga 550  
atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
<211> 77  
<212> PRT  
<213> Homo sapiens

<400> 283  
Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg  
1 5 10 15  
Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu



aactcacgct catcctaatac ttactgttta caaaaaagaa gacgttccag 1150  
aaaggtggca ttacaaatac aacagtcgaa ttcaaccaat catagcagtg 1200  
gctgatgaag ggtggcacat ttacagaat aagtcagatg actttctgtt 1250  
aggcaaccac ggttacgata atgcgttagc agatatgcat ccaatatttt 1300  
tagcccatgg tctgccttc agaaagaatt tctcaaaaga agccatgaac 1350  
tccacagatt tgtaccact actatgccac ctctcaata tcaactgcat 1400  
gccacacaat ggatcattct ggaatgtcca ggatctgctc aattcagcaa 1450  
tgccaagggt ggtcccttat acacagagta ctatactcct ccctggtagt 1500  
gttaaaccag cagaatatga ccaagagggg tcataccctt atttcatagg 1550  
ggctctctctt ggcagcatta tagtgattgt attttttgta attttcatta 1600  
agcatttaat tcacagtcaa atacctgcct tacaagatat gcatgctgaa 1650  
atagctcaac cattattaca agcctaattgt tactttgaag tggatttgca 1700  
tattgaagtg gagattccat aattatgtca gtgtttaaag gtttcaaatt 1750  
ctgggaaacc agttccaaac atctgcagaa accattaagc agttacatat 1800  
ttaggtatac acacacacac acacacacac atacacacac acggacccaa 1850  
atacttacac ctgcaaagga ataaagatgt gagagtatgt ctccattggt 1900  
cactgtagca tagggataga taagatcctg ctttatttggt acttgogca 1950  
gataatgtat atatttagca actttgcaat atgtaaagta ctttatatat 2000  
tgcactttaa atttctctcc tgatgggtac ttttaattga aatgcacttt 2050  
atggacagtt atgtcttata acttgattga aaatgacaac tttttgcacc 2100  
catgtcacag aatacttggt acgcattggt caaactgaag gaaatttcta 2150  
ataatcccga ataataaaca tagaaatcta tctccataaa ttgagagaag 2200  
aagaaggtga taagtgtga aaattaaatg tgataacctt tgaaccttga 2250  
attttggaga tgtattccca acagcagaat gcaactgtgg gcatttcttg 2300  
tcttatttct ttccagagaa cgtggttttc atttattttt ccctcaaaag 2350  
agagtcaaata actgacagat tcgttctaaa tatattgttt ctgtcataaa 2400  
attattgtga tttcctgatg agtcatatta ctgtgatttt cataataatg 2450  
aagacaccat gaatatactt ttcttctata tagttcagca atggcctgaa 2500  
tagaagcaac caggcaccat ctgagcaatg ttttctcttg tttgtaatta 2550  
tttgctcctt tgaaaattaa atcactatta attacattaa aaatcaaatt 2600  
ggataaaaaa aaaaaaaaaa aaa 2623

<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

Met	Thr	Ser	Lys	Phe	Ile	Leu	Val	Ser	Phe	Ile	Leu	Ala	Ala	Leu	
1				5					10					15	
Ser	Leu	Ser	Thr	Thr	Phe	Ser	Leu	Gln	Leu	Asp	Gln	Gln	Lys	Val	
				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	



				290					295					300
Val	Pro	Glu	Arg	Trp 305	His	Tyr	Lys	Tyr	Asn 310	Ser	Arg	Ile	Gln	Pro 315
Ile	Ile	Ala	Val	Ala 320	Asp	Glu	Gly	Trp	His 325	Ile	Leu	Gln	Asn	Lys 330
Ser	Asp	Asp	Phe	Leu 335	Leu	Gly	Asn	His	Gly 340	Tyr	Asp	Asn	Ala	Leu 345
Ala	Asp	Met	His	Pro 350	Ile	Phe	Leu	Ala	His 355	Gly	Pro	Ala	Phe	Arg 360
Lys	Asn	Phe	Ser	Lys 365	Glu	Ala	Met	Asn	Ser 370	Thr	Asp	Leu	Tyr	Pro 375
Leu	Leu	Cys	His	Leu 380	Leu	Asn	Ile	Thr	Ala 385	Met	Pro	His	Asn	Gly 390
Ser	Phe	Trp	Asn	Val 395	Gln	Asp	Leu	Leu	Asn 400	Ser	Ala	Met	Pro	Arg 405
Val	Val	Pro	Tyr	Thr 410	Gln	Ser	Thr	Ile	Leu 415	Leu	Pro	Gly	Ser	Val 420
Lys	Pro	Ala	Glu	Tyr 425	Asp	Gln	Glu	Gly	Ser 430	Tyr	Pro	Tyr	Phe	Ile 435
Gly	Val	Ser	Leu	Gly 440	Ser	Ile	Ile	Val	Ile 445	Val	Phe	Phe	Val	Ile 450
Phe	Ile	Lys	His	Leu 455	Ile	His	Ser	Gln	Ile 460	Pro	Ala	Leu	Gln	Asp 465
Met	His	Ala	Glu	Ile 470	Ala	Gln	Pro	Leu	Leu 475	Gln	Ala			

```
<210> 286
<211> 1337
<212> DNA
<213> Homo sapiens
```



Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala	
				125					130					135	
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe	
				140					145					150	
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser	
				155					160					165	
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val	
				170					175					180	
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe	
				185					190					195	
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala	
				200					205					210	
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu	
				215					220					225	
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala	
				230					235					240	
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp	
				245					250					255	

<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

<400> 288  
 cggctcgagc tcgagccgaa tcggctcgag gggcagtgga gcacccagca 50  
 ggccgccaac atgctctgtc tgtgcctgta cgtgccggtc atcggggaag 100  
 cccagaccga gttccagtac tttgagtcga aggggctccc tgccgagctg 150  
 aagtccattt tcaagctcag tgtcttcata ccctcccagg aattctccac 200  
 ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250  
 atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300  
 aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350  
 cattgacgcg caggagatca tgcagtcctt gcgggacttg ggagtcaaga 400  
 tatctgaaca gcaggcagaa aaaattctca agagcatgga taaaaacggc 450  
 acgatgacca tcgactggaa cgagtggaga gactaaccac tcctccaccc 500  
 cgtggaaaac atccccgaga tcatacctcta ctggaagcat tccacgatct 550  
 ttgatgtggg tgagaatcta acggtcccgg atgagttcac agtggaggag 600  
 aggcagacgg ggatgtggtg gagacacctg gtggcaggag gtggggcagg 650  
 ggccgtatcc agaacctgca cggccccctt ggacaggctc aaggtgctca 700  
 tgcaggtcca tgcctccgcg agcaacaaca tgggcatcgt tgggtggcttc 750

actcagatga ttcgagaagg agggggccagg tcactctggc ggggcaatgg 800  
catcaacgtc ctcaaaattg cccccgaatc agccatcaaa ttcattggcct 850  
atgagcagat caagcgctt gttggtagt accaggagac tctgaggatt 900  
cacgagaggc ttgtggcagg gtccttggca gggggccatcg cccagagcag 950  
catctacca atggagggtcc tgaagacccg gatggcgctg cggaagacag 1000  
gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050  
ggggtggccg ccttctacaa aggctatgtc cccaacatgc tgggcatcat 1100  
cccctatgcc ggcattcgacc ttgcagtcta cgagacgctc aagaatgcct 1150  
ggctgcagca ctatgcagtg aacagcgcgg accccggcgt gtttgtgctc 1200  
ctggcctgtg gcacattgtc cagtacctgt ggccagctgg ccagctaccc 1250  
cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300  
ctccggagggt gaccattgagc agcctcttca aacatattct gcggaccgag 1350  
ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggatcat 1400  
cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcaccc 1450  
tgggctgtga gtcgcggtga cggggggagg gccgcccggc agtggactcg 1500  
ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550  
tgccaacact aagctgtctc gagccaagct gtgaaaacc tagacgcacc 1600  
cgcagggagg gtggggagag ctggcaggcc cagggttgt cctgctgacc 1650  
ccagcagacc ctctgtttg ttccagcgaa gaccacaggc attccttagg 1700  
gtccagggtc agcaggctcc gggctcacat gtgtaaggac aggacatttt 1750  
ctgcagtgcc tgccaatagt gagcttggag cctggaggcc ggcttagttc 1800  
ttccatttca cccttgagc cagctgttgg ccacggcccc tgccctctgg 1850  
tctgccgtgc atctccctgt gccctcttgc tgccctgctg tctgctgagg 1900  
taagggtgga ggagggtac agcccacatc ccacccctc gtccaatccc 1950  
ataatccatg atgaaagggt aggtcacgtg gcctcccagg cctgacttcc 2000  
caacctacag cattgacgcc aacttggtg tgaaggaaga ggaaaggatc 2050  
tgcccttgtg gtcactggca tctgagccct gctgatggct ggggctctcg 2100  
ggcatgcttg ggagtgcagg gggctcgggc tgccctggct ggctgcacag 2150  
aaggcaagtg ctggggctca tgggtgctctg agctggcctg gaccctgtca 2200  
ggatggggcc cacctcagaa ccaaaactcac tgtccccact gtggcatgag 2250  
ggcagtggag caccatgttt gagggcgagg ggcagagcgt ttgtgtgttc 2300  
tggggaggga aggaaaagg gttggaggcc ttaattatgg actgttggga 2350

aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400  
 ttccagagga agacgagga gcaggagctt ggctgactgc tcagagtctg 2450  
 ttctgacgcc ctgggggttc ctgtccaacc ccagcagggg cgcagcggga 2500  
 ccagccccac attccacttg tgtcactgct tggaacctat ttattttgta 2550  
 tttatttgaa cagagttatg tcctaactat ttttatagat ttgtttaatt 2600  
 aatagcttgt cattttcaag ttcatttttt attcatattt atgttcatgg 2650  
 ttgattgtac cttcccaagc ccgcccagtg ggatgggagg aggaggagaa 2700  
 ggggggcctt gggccgctgc agtcacatct gtccagagaa attccttttg 2750  
 ggactggagg cagaaaagcg gccagaaggc agcagocctg gtccttttcc 2800  
 tttggcaggt tggggaaggg cttgccccca gcottaggat ttcagggttt 2850  
 gactgggggc gtggagagag agggaggaac ctcaataacc ttgaaggtgg 2900  
 aatccagtta tttcctgcgc tgcgagggtt tctttatttc actcttttct 2950  
 gaatgtcaag gcagtgaggt gcctctcact gtgaatttgt ggtgggcggg 3000  
 ggctggagga gaggtgggg ggctggctcc gtccctccca gccttctgct 3050  
 gcccttgctt aacaatgccg gccaaactggc gacctcacgg ttgcacttcc 3100  
 attccaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150  
 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200  
 aattaagaaa gaattggacg ttagaagttg tcatttaaag cagccttcta 3250  
 ataaagttgt ttcaaagctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

<210> 289  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
 Met Leu Cys Leu Cys Leu Tyr Val Pro Val Ile Gly Glu Ala Gln  
     1                    5                    10                    15  
 Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu  
                     20                    25                    30  
 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
                     35                    40                    45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
                     50                    55                    60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
                     65                    70                    75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
                     80                    85                    90

Asp	Lys	Lys	Asn	Asp 95	Gly	Arg	Ile	Asp	Ala 100	Gln	Glu	Ile	Met	Gln 105
Ser	Leu	Arg	Asp	Leu 110	Gly	Val	Lys	Ile	Ser 115	Glu	Gln	Gln	Ala	Glu 120
Lys	Ile	Leu	Lys	Ser 125	Met	Asp	Lys	Asn	Gly 130	Thr	Met	Thr	Ile	Asp 135
Trp	Asn	Glu	Trp	Arg 140	Asp	Tyr	His	Leu	Leu 145	His	Pro	Val	Glu	Asn 150
Ile	Pro	Glu	Ile	Ile 155	Leu	Tyr	Trp	Lys	His 160	Ser	Thr	Ile	Phe	Asp 165
Val	Gly	Glu	Asn	Leu 170	Thr	Val	Pro	Asp	Glu 175	Phe	Thr	Val	Glu	Glu 180
Arg	Gln	Thr	Gly	Met 185	Trp	Trp	Arg	His	Leu 190	Val	Ala	Gly	Gly	Gly 195
Ala	Gly	Ala	Val	Ser 200	Arg	Thr	Cys	Thr	Ala 205	Pro	Leu	Asp	Arg	Leu 210
Lys	Val	Leu	Met	Gln 215	Val	His	Ala	Ser	Arg 220	Ser	Asn	Asn	Met	Gly 225
Ile	Val	Gly	Gly	Phe 230	Thr	Gln	Met	Ile	Arg 235	Glu	Gly	Gly	Ala	Arg 240
Ser	Leu	Trp	Arg	Gly 245	Asn	Gly	Ile	Asn	Val 250	Leu	Lys	Ile	Ala	Pro 255
Glu	Ser	Ala	Ile	Lys 260	Phe	Met	Ala	Tyr	Glu 265	Gln	Ile	Lys	Arg	Leu 270
Val	Gly	Ser	Asp	Gln 275	Glu	Thr	Leu	Arg	Ile 280	His	Glu	Arg	Leu	Val 285
Ala	Gly	Ser	Leu	Ala 290	Gly	Ala	Ile	Ala	Gln 295	Ser	Ser	Ile	Tyr	Pro 300
Met	Glu	Val	Leu	Lys 305	Thr	Arg	Met	Ala	Leu 310	Arg	Lys	Thr	Gly	Gln 315
Tyr	Ser	Gly	Met	Leu 320	Asp	Cys	Ala	Arg	Arg 325	Ile	Leu	Ala	Arg	Glu 330
Gly	Val	Ala	Ala	Phe 335	Tyr	Lys	Gly	Tyr	Val 340	Pro	Asn	Met	Leu	Gly 345
Ile	Ile	Pro	Tyr	Ala 350	Gly	Ile	Asp	Leu	Ala 355	Val	Tyr	Glu	Thr	Leu 360
Lys	Asn	Ala	Trp	Leu 365	Gln	His	Tyr	Ala	Val 370	Asn	Ser	Ala	Asp	Pro 375
Gly	Val	Phe	Val	Leu 380	Leu	Ala	Cys	Gly	Thr 385	Met	Ser	Ser	Thr	Cys 390
Gly	Gln	Leu	Ala	Ser 395	Tyr	Pro	Leu	Ala	Leu 400	Val	Arg	Thr	Arg	Met 405

Gln	Ala	Gln	Ala	Ser	Ile	Glu	Gly	Ala	Pro	Glu	Val	Thr	Met	Ser
				410					415					420
Ser	Leu	Phe	Lys	His	Ile	Leu	Arg	Thr	Glu	Gly	Ala	Phe	Gly	Leu
				425					430					435
Tyr	Arg	Gly	Leu	Ala	Pro	Asn	Phe	Met	Lys	Val	Ile	Pro	Ala	Val
				440					445					450
Ser	Ile	Ser	Tyr	Val	Val	Tyr	Glu	Asn	Leu	Lys	Ile	Thr	Leu	Gly
				455					460					465
Val	Gln	Ser	Arg											

<210> 290  
 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

<400> 290  
 ggaaggcagc ggcagctcca ctccagccagt acccagatac gctgggaacc 50  
 ttccccagcc atggcttccc tggggcagat cctcttcttg agcataatta 100  
 gcatcatcat tattctggct ggagcaattg cactcatcat tggctttggt 150  
 atttcaggga gacactccat cacagtcact actgtgcct cagctgggaa 200  
 cattggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250  
 tttctgatat cgtgatacaa tggctgaagg aagggtgttt aggcttggtc 300  
 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatgtt 350  
 cagaggcccg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgccggt gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tatatcatca cttctaaagg caaggggaat gctaaccttg agtataaaac 500  
 tggagccttc agcatgccg aagtgaatgt ggactataat gccagctcag 550  
 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtgggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctoggaag tctccaatac 650  
 cagctttgag ctgaactctg agaatgtgac catgaagggt gtgtctgtgc 700  
 tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750  
 attgccaaag caacagggga tatcaaagtg acagaatogg agatcaaaag 800  
 gcggagtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850  
 ctttctttgc catcagctgg gcacttctgc ctctcagccc ttacctgatg 900  
 ctaaaataat gtgccttggc cacaaaaaag catgcaaagt cattgttaca 950  
 acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000  
 ttctgggagg aaatgaattc atatctagaa gtctggagtg agcaaacaag 1050

agcaagaaac aaaaagaagc caaaagcaga aggcaccaat atgaacaaga 1100  
 taaatctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150  
 actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200  
 gcatccccag atctcagga cctccccctg cctgtcacct ggggagtgag 1250  
 aggacaggat agtgcattgt ctttgtctct gaatttttag ttatatgtgc 1300  
 tgtaatgttg ctctgaggaa gcccttgaa agtctatccc aacatatcca 1350  
 catcttatat tccacaaatt aagctgtagt atgtacccta agacgctgct 1400  
 aattgactgc cacttcgcaa ctcaggggcg gctgcatttt agtaatgggt 1450  
 caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
 ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
 acagagcagt cggggacacc gatattataa ataaactgag caccttcttt 1600  
 ttaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaa 1658

<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile  
 1 5 10 15  
 Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly  
 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



	155		160		165
Leu Arg Cys Glu	Ala Pro Arg Trp Phe	Pro Gln Pro Thr Val	Val		
	170	175	180		
Trp Ala Ser Gln	Val Asp Gln Gly Ala	Asn Phe Ser Glu Val	Ser		
	185	190	195		
Asn Thr Ser Phe	Glu Leu Asn Ser Glu	Asn Val Thr Met Lys	Val		
	200	205	210		
Val Ser Val Leu	Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser	Cys		
	215	220	225		
Met Ile Glu Asn	Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys	Val		
	230	235	240		
Thr Glu Ser Glu	Ile Lys Arg Arg Ser	His Leu Gln Leu Leu	Asn		
	245	250	255		
Ser Lys Ala Ser	Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser	Trp		
	260	265	270		
Ala Leu Leu Pro	Leu Ser Pro Tyr Leu	Met Leu Lys			
	275	280			

<210> 292  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 292  
 gaattttag aagacagcgg cgttgccatg gcggcgtctc tggggcaggt 50  
 gttggctctg gtgctggtgg ccgctctgtg ggggtggcacg cagccgctgc 100  
 tgaagcgggc ctccgccggc ctgcagcggg ttcattgagcc gacctgggcc 150  
 cagcagttgc tacaggagat gaagaccctc ttcttgaata ctgagtacct 200  
 gatgcccttt ctctcaacc agtgtggatc ccttctctat tacctcacct 250  
 tggcatcgac agatctgacc ctggctgtgc ccatctgtaa ctctctggct 300  
 atcatcttca cactgattgt tgggaaggcc cttggagaag atattggtgg 350  
 aaaacgtaag ttagactact gcgagtgcgg gacgcagctc tgtggatctc 400  
 gacataacctg tgttagttcc ttcccagaac ccatctcccc agagtgggtg 450  
 aggacacggc cttttcccat cctgcccttt cctctgcagc tgttttgctt 500  
 ccttgtaggc atcagagttc ccttcccctg gacagtctgg agaaagacag 550  
 aggctggggt ttgggattga agaccagacc ccatctgagc cttcctcca 600  
 gccctgtacc agctcctact ggcatggctg agctcagacc ctctgattt 650  
 ctgcctatta tcccaggagc agttgctggc atggtgctca ccgtgatagg 700  
 aatttcactc tgcatacaca gctcagtgag taagaccagc gggcaacagt 750  
 ctaccctttg agtggggcga acccacttcc agctctgctg cctccaggaa 800

gcccctgggc catgaagtgc tggcagtgag cggatggacc tagcacttcc 850  
cctctctggc cttagcttcc tcctctctta tggggataac agctacctca 900  
tggatcacaa taagagaaca agagtgaag agttttgtaa ccttcaagtg 950  
ctgttcagct gcggggattt agcacaggag actctacgct caccctcagc 1000  
aacctttctg ccccgagcgc tctcttcctg ctaacatctc aggctcccag 1050  
cccagccacc attactgtgg cctgatctgg actatcatgg tggcaggttc 1100  
catggactgc agaactccag ctgcatggaa agggccagct gcagactttg 1150  
agccagaaat gcaaacggga ggcctctggg actcagtcag agcgcttttg 1200  
ctgaatgagg ggtggaaccg aggggaagaag gtgcgtcgga gtggcagatg 1250  
caggaaatga gctgtctatt agccttgcct gccccacca tgaggtaggc 1300  
agaaatcctc actgccagcc cctcttaaac aggtagagag ctgtgagccc 1350  
cagccccacc tgactccagc acacctggcg agtagtagct gtcaataaat 1400  
ctatgtaaac agacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1484

<210> 293  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 293  
Met Ala Ala Ser Leu Gly Gln Val Leu Ala Leu Val Leu Val Ala  
1 5 10 15  
Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala  
20 25 30  
Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu  
35 40 45  
Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro  
50 55 60  
Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu  
65 70 75  
Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu  
80 85 90  
Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp  
95 100 105  
Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln  
110 115 120  
Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro  
125 130 135  
Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro  
140 145 150

Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
				155					160					165
Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
				170					175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

<400> 294  
 cttctgtagg acagtcacca ggccagatcc agaagcctct ctaggctcca 50  
 gctttctctg tggaagatga cagcaattat agcaggaccc tgccaggctg 100  
 tcgaaaagat tccgcaataa aactttgccca gtgggaagta cctagtgaaa 150  
 cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200  
 ccccatcctt gggagaagtc agctccagca ccatgaaggg catcctcggt 250  
 gctggtatca ctgcagtgtc tgttgacagc gtagaatctc tgagctgcgt 300  
 gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350  
 gtccctcaca tgccaacacc agctgtatca gtcctcagc cagctcctct 400  
 ctagagacac cagtcagatt ataccagaat atgttctgct cagcggagaa 450  
 ctgcagtgag gagacacaca ttacagcctt cactgtccac gtgtctgctg 500  
 aagaacactt tcattttgta agccagtgtc gccaaggaaa ggaatgcagc 550  
 aacaccagcg atgccctgga cctccctctg aagaacgtgt ccagcaacgc 600  
 agagtgcctt gcttggtatg aatctaattg aacttcctgt cgtgggaagc 650  
 cctggaaatg ctatgaagaa gaacagtgtg tctttctagt tgcagaactt 700  
 aagaatgaca ttgagtctaa gagtctcgtg ctgaaaggct gttccaacgt 750  
 cagtaacgcc acctgtcagt tcctgtctgg tgaaaacaag actcttgag 800  
 gagtcatctt tcgaaagttt gagtgtgcaa atgtaaacag ctttaacccc 850  
 acgtctgcac caaccacttc ccacaacgtg ggctccaaag cttccctcta 900  
 cctcttgccc cttgccagcc tccttcttcg gggactgctg ccctgaggtc 950  
 ctggggctgc actttgccca gcacccatt tctgcttctc tgagggtccag 1000  
 agcaccctt gcggtgtga caccctcttt ccctgctctg ccccgtttaa 1050  
 ctgccagta agtgggagtc acaggtctcc aggcaatgcc gacagctgcc 1100  
 ttgttcttca ttattaaagc actggttcat tcaactgcaa aaaaaaaaaa 1150  
 aaaaaaaaaa aaaa 1164

<210> 295  
 <211> 237  
 <212> PRT

<213> Homo sapiens

<400> 295

Met Lys Gly Ile Leu Val Ala Gly Ile Thr Ala Val Leu Val Ala  
1 5 10 15  
Ala Val Glu Ser Leu Ser Cys Val Gln Cys Asn Ser Trp Glu Lys  
20 25 30  
Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn  
35 40 45  
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60  
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75  
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90  
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105  
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120  
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135  
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150  
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165  
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180  
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195  
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210  
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225  
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

ggcctcgggt caaacgaccc ggtgggtcta cagcggaagg gagggagcga 50  
aggtaggagg cagggcttgc ctactggcc accctcccaa cccaagagc 100  
ccagcccat ggtccccgcc gccggcgcc tgctgtgggt cctgctgctg 150

aatctgggtc cccgggcggc gggggcccaa ggctgaccc agactccgac 200  
 cgaaatgcag cgggtcagtt tacgctttgg gggcccatg acccgagct 250  
 accggagcac cgccgggact ggtcttcccc ggaagacaag gataatccta 300  
 gaggacgaga atgatgccat ggccgacgcc gaccgcctgg ctggaccagc 350  
 ggctgccgag ctcttggccg ccacggtgtc caccggcttt agccggtcgt 400  
 ccgccattaa cgaggaggat gggctctcag aagaggggggt tgtgattaat 450  
 gccggaaagg atagcaccag cagagagctt ccagtgcca ctccaatac 500  
 agcggggagt tccagcacga ggtttatagc caatagtcag gagcctgaaa 550  
 tcaggctgac ttcaagcctg ccgcgctccc ccgggaggtc tactgaggac 600  
 ctgccaggct cgcaggccac cctgagccag tgggtccacac ctgggtctac 650  
 cccgagccgg tggccgtcac cctcaccac agccatgcca tctcctgagg 700  
 atctgcccgt ggtgctgatg ccctggggcc cgtggcactg ccaactgcaag 750  
 tcgggcacca tgagccggag ccggtctggg aagctgcacg gcctttccgg 800  
 gcgccttcga gttggggcgc tgagccagct ccgcacggag cacaagcctt 850  
 gcacctatca acaatgtccc tgcaaccgac ttcgggaaga gtgccccctg 900  
 gacacaagtc tctgtactga caccaactgt gcctctcaga gcaccaccag 950  
 taccaggacc accactaccc ccttccccac catccacctc agaagcagtc 1000  
 ccagcctgcc acccgccagc ccctgccag ccctggcttt ttggaaacgg 1050  
 gtcaggattg gcctggagga tatttggaat agcctctctt cagtgttcac 1100  
 agagatgcaa ccaatagaca gaaaccagag gtaatggcca cttcatccac 1150  
 atgaggagat gtcagtatct caacctctct tgccctttca atcctagcac 1200  
 ccactagata tttttagtac agaaaaacaa aactggaaaa cacaa 1245

<210> 297  
 <211> 341  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
 Met Val Pro Ala Ala Gly Ala Leu Leu Trp Val Leu Leu Leu Asn  
 1 5 10 15  
 Leu Gly Pro Arg Ala Ala Gly Ala Gln Gly Leu Thr Gln Thr Pro  
 20 25 30  
 Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
 35 40 45  
 Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
 50 55 60  
 Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65					70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val
				80					85					90
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly
				95					100					105
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr
				110					115					120
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser
				125					130					135
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu
				140					145					150
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu
				155					160					165
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser
				170					175					180
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser
				185					190					195
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His
				200					205					210
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys
				215					220					225
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln
				230					235					240
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys
				245					250					255
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr
				260					265					270
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr
				275					280					285
Thr	Thr	Pro	Phe	Pro	Thr	Ile	His	Leu	Arg	Ser	Ser	Pro	Ser	Leu
				290					295					300
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val
				305					310					315
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe
				320					325					330
Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg				
				335					340					

<210> 298

<211> 2692

<212> DNA

<213> Homo sapiens

<400> 298

cccgggtcga cccacgcgtc cggggagaaa ggatggccgg cctggcggcg 50

cggttggtcc tgctagctgg ggcagcggcg ctggcgagcg gctcccagg 100  
 cgaccgtgag ccggtgtacc gcgactgcgt actgcagtgc gaagagcaga 150  
 actgctctgg gggcgctctg aatcacttcc gctcccgcca gccaatctac 200  
 atgagtctag caggctggac ctgtcgggac gactgtaagt atgagtgtat 250  
 gtgggtcacc gttgggctct acctccagga aggtcacaaa gtgcctcagt 300  
 tccatggcaa gtggcccttc tcccggttcc tgttctttca agagccggca 350  
 tcggccgtgg cctcgtttct caatggcctg gccagcctgg tgatgctctg 400  
 ccgctaccgc accttcgtgc cagcctcctc ccccatgtac cacacctgtg 450  
 tggccttcgc ctgggtgtcc ctcaatgcat ggttctggtc cacagtcttc 500  
 cacaccaggg aactgacct cacagagaaa atggactact tctgtgcctc 550  
 cactgtcatc ctacactcaa tctacctgtg ctgcgtcagg accgtggggc 600  
 tgcagcaccg agctgtggtc agtgccttcc gggctctcct gctgctcatg 650  
 ctgaccgtgc acgtctccta cctgagcctc atccgcttcg actatggcta 700  
 caacctggtg gccaacgtgg ctattggcct ggtcaacgtg gtgtggtggc 750  
 tggcctgggtg cctgtggaac cagcggcggc tgccctcacgt ggcgaagtgc 800  
 gtggtggtgg tcttgctgct gcaggggctg tccctgctcg agctgcttga 850  
 cttcccaccg ctcttctggg tcttgatgc ccatgccatc tggcacatca 900  
 gcaccatccc tgtccacgtc ctctttttca gctttctgga agatgacagc 950  
 ctgtacctgc tgaaggaatc agaggacaag ttcaagctgg actgaagacc 1000  
 ttggagcgag tctgccccag tggggatcct gcccccgccc tgctggcctc 1050  
 cttctcctcc tcaacccttg agatgatttt ctcttttcaa cttcttgaac 1100  
 ttggacatga aggatgtggg ccagagaatca tgtggccagc ccacccctg 1150  
 ttggccctca ccagccttgg agtctgttct aggggaaggc tcccagcatc 1200  
 tgggactcga gagtgggcag cccctctacc tcttgagct gaactggggt 1250  
 ggaactgagt gtgttcttag ctctaccggg aggacagctg cctgtttcct 1300  
 cccaccagc ctctcccca catccccagc tgccctggctg ggtcctgaag 1350  
 ccctctgtct acctgggaga ccagggacca caggccttag ggatacaggg 1400  
 ggtccccttc tgttaccacc cccacccctc ctccaggaca ccactaggtg 1450  
 gtgctggatg cttgttcttt ggccagccaa ggttcacggc gattctcccc 1500  
 atgggatctt gagggaccaaa gctgctggga ttgggaagga gtttcacct 1550  
 gaccgttgcc ctagccagggt tcccaggagg cctcaccata ctccctttca 1600  
 gggccagggc tccagcaagc ccagggcaag gatcctgtgc tgctgtctgg 1650

ttgagagcct gccaccgtgt gtcgggagtg tgggccaggc tgagtgcata 1700  
 ggtgacaggg ccgtgagcat gggcctgggt gtgtgtgagc tcaggcctag 1750  
 gtgcgcagtg tggagacggg tgttgtcggg gaagaggtgt ggcttcaaag 1800  
 tgtgtgtgtg caggggggtg gtgtgttagc gtgggttagg ggaacgtgtg 1850  
 tgcgcgtgct ggtgggcatg tgagatgagt gactgccggt gaatgtgtcc 1900  
 acagttgaga ggttgaggca ggatgaggga atcctgtcac catcaataat 1950  
 cacttggtga gcgccagctc tgcccaagac gccacctggg cggacagcca 2000  
 ggagctctcc atggccaggc tgcctgtgtg catgttcctt gtctggtgcc 2050  
 cctttgcccg cctcctgcaa acctcacagg gtccccacac aacagtgcc 2100  
 tccagaagca gcccctcgga ggcagaggaa ggaaaatggg gatggctggg 2150  
 gctctctcca tcctcctttt ctccctgcct tcgcatggct ggccttcccc 2200  
 tccaaaacct ccattcccct gctgccagcc cctttgccat agcctgattt 2250  
 tggggaggag gaaggggcga tttgaggag aaggggagaa agcttatggc 2300  
 tgggtctggt ttcttcctt cccagagggt cttactgttc caggggtggc 2350  
 ccagggcagg caggggccac actatgcctg tgccctggta aaggtgaccc 2400  
 ctgccattta ccagcagccc tggcatgttc ctgccccaca ggaatagaat 2450  
 ggaggagct ccagaaactt tccatcccaa aggcagtctc cgtggttgaa 2500  
 gcagactgga tttttgctct gccctgacc ccttgtccct ctttgaggga 2550  
 ggggagctat gctaggactc caacctcagg gactcgggtg gcctgcgcta 2600  
 gcttcttttg atactgaaaa cttttaaggt gggaggggtg caagggatgt 2650  
 gcttaataaaa tcaattccaa gcctcaaaaa aaaaaaaaaa aa 2692

<210> 299  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 299  
 Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala  
 1 5 10 15  
 Ala Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg  
 20 25 30  
 Asp Cys Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala  
 35 40 45  
 Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala  
 50 55 60  
 Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val  
 65 70 75



Thr	Val	Gly	Leu	Tyr	Leu	Gln	Glu	Gly	His	Lys	Val	Pro	Gln	Phe	
				80					85					90	
His	Gly	Lys	Trp	Pro	Phe	Ser	Arg	Phe	Leu	Phe	Phe	Gln	Glu	Pro	
				95					100					105	
Ala	Ser	Ala	Val	Ala	Ser	Phe	Leu	Asn	Gly	Leu	Ala	Ser	Leu	Val	
				110					115					120	
Met	Leu	Cys	Arg	Tyr	Arg	Thr	Phe	Val	Pro	Ala	Ser	Ser	Pro	Met	
				125					130					135	
Tyr	His	Thr	Cys	Val	Ala	Phe	Ala	Trp	Val	Ser	Leu	Asn	Ala	Trp	
				140					145					150	
Phe	Trp	Ser	Thr	Val	Phe	His	Thr	Arg	Asp	Thr	Asp	Leu	Thr	Glu	
				155					160					165	
Lys	Met	Asp	Tyr	Phe	Cys	Ala	Ser	Thr	Val	Ile	Leu	His	Ser	Ile	
				170					175					180	
Tyr	Leu	Cys	Cys	Val	Arg	Thr	Val	Gly	Leu	Gln	His	Pro	Ala	Val	
				185					190					195	
Val	Ser	Ala	Phe	Arg	Ala	Leu	Leu	Leu	Leu	Met	Leu	Thr	Val	His	
				200					205					210	
Val	Ser	Tyr	Leu	Ser	Leu	Ile	Arg	Phe	Asp	Tyr	Gly	Tyr	Asn	Leu	
				215					220					225	
Val	Ala	Asn	Val	Ala	Ile	Gly	Leu	Val	Asn	Val	Val	Trp	Trp	Leu	
				230					235					240	
Ala	Trp	Cys	Leu	Trp	Asn	Gln	Arg	Arg	Leu	Pro	His	Val	Arg	Lys	
				245					250					255	
Cys	Val	Val	Val	Val	Leu	Leu	Leu	Gln	Gly	Leu	Ser	Leu	Leu	Glu	
				260					265					270	
Leu	Leu	Asp	Phe	Pro	Pro	Leu	Phe	Trp	Val	Leu	Asp	Ala	His	Ala	
				275					280					285	
Ile	Trp	His	Ile	Ser	Thr	Ile	Pro	Val	His	Val	Leu	Phe	Phe	Ser	
				290					295					300	
Phe	Leu	Glu	Asp	Asp	Ser	Leu	Tyr	Leu	Leu	Lys	Glu	Ser	Glu	Asp	
				305					310					315	
Lys	Phe	Lys	Leu	Asp											
				320											

<210> 300  
 <211> 1674  
 <212> DNA  
 <213> Homo sapiens

<400> 300  
 ggccgcctgg aattgtggga gttgtgtctg ccaactgggt gccggaggcc 50  
 gaaggtccgt gactatggct cccagagacc tgccttcac taggatggct 100  
 cctctgggca tgctgcttgg gctgctgatg gccgcctgct tcaccttctg 150



**Abstract** The purpose of this study was to determine the effect of a 10-week training program on the physical fitness of 10-year-old children. The study was conducted in a primary school in the city of Bursa, Turkey. The study group consisted of 20 children (10 boys and 10 girls) who were randomly selected from the 10-year-old children in the school. The children were divided into two groups: a control group and an experimental group. The control group did not participate in any physical education program, while the experimental group participated in a 10-week training program. The physical fitness of the children was measured at the beginning and at the end of the 10-week period. The measurements included maximum heart rate, maximum oxygen consumption, maximum power, and maximum speed. The results of the study showed that the experimental group had significantly higher values for all four measurements at the end of the 10-week period compared to the control group. The results suggest that a 10-week training program can improve the physical fitness of 10-year-old children.

Met Ala Pro Gln Ser Leu Pro Ser Ser Arg Met Ala Pro Leu Gly  
1 5 10 15

Ser His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys  
35 40 45

Glu Leu Asp Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu  
65 70 75

Val Arg Leu Asn Leu Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln  
95 100 105

Ile Asn Thr Asn Thr Tyr Thr Ser Gln Asp Leu Lys Ser Ala Leu  
125 130 135

Ala Lys Phe Lys Glu Gly Ala Glu Met Glu Ser Ser Lys Glu Asp  
140 145 150

Lys Ala Arg Gln Ala Glu Val Lys Arg Leu Phe Arg Pro Ile Glu  
155 160 165

Glu Leu Lys Lys Asp Phe Asp Glu Leu Asn Val Val Ile Glu Thr  
170 175 180

Asp Met Gln Ile Met Val Arg Leu Ile Asn Lys Phe Asn Ser Ser  
185 190 195

Ser Ser Ser Leu Glu Glu Lys Ile Ala Ala Leu Phe Asp Leu Glu  
200 205 210

Tyr Tyr Val His Gln Met Asp Asn Ala Gln Asp Leu Leu Ser Phe  
215 220 225

Gly Gly Leu Gln Val Val Ile Asn Gly Leu Asn Ser Thr Glu Pro  
230 235 240

Leu Val Lys Glu Tyr Ala Ala Phe Val Leu Gly Ala Ala Phe Ser  
245 250 255

Ser Asn Pro Lys Val Gln Val Glu Ala Ile Glu Gly Gly Ala Leu  
260 265 270

Gln Lys Leu Leu Val Ile Leu Ala Thr Glu Gln Pro Leu Thr Ala  
275 280 285

Lys Lys Lys Val Leu Phe Ala Leu Cys Ser Leu Leu Arg His Phe

290	295	300
Pro Tyr Ala Gln Arg Gln Phe Leu Lys	Leu Gly Gly Leu Gln Val	
305	310	315
Leu Arg Thr Leu Val Gln Glu Lys Gly	Thr Glu Val Leu Ala Val	
320	325	330
Arg Val Val Thr Leu Leu Tyr Asp Leu	Val Thr Glu Lys Met Phe	
335	340	345
Ala Glu Glu Glu Ala Glu Leu Thr Gln	Glu Met Ser Pro Glu Lys	
350	355	360
Leu Gln Gln Tyr Arg Gln Val His Leu	Leu Pro Gly Leu Trp Glu	
365	370	375
Gln Gly Trp Cys Glu Ile Thr Ala His	Leu Leu Ala Leu Pro Glu	
380	385	390
His Asp Ala Arg Glu Lys Val Leu Gln	Thr Leu Gly Val Leu Leu	
395	400	405
Thr Thr Cys Arg Asp Arg Tyr Arg Gln	Asp Pro Gln Leu Gly Arg	
410	415	420
Thr Leu Ala Ser Leu Gln Ala Glu Tyr	Gln Val Leu Ala Ser Leu	
425	430	435
Glu Leu Gln Asp Gly Glu Asp Glu Gly	Tyr Phe Gln Glu Leu Leu	
440	445	450
Gly Ser Val Asn Ser Leu Leu Lys Glu	Leu Arg	
455	460	

<210> 302  
 <211> 2136  
 <212> DNA  
 <213> Homo sapiens

<400> 302  
 ttcggttcc gtagaggaag tggcgcgac cttcatttgg ggtttcggtt 50  
 ccccccttc cccttccccg gggctctgggg gtgacattgc accgcgcccc 100  
 tcgtgggggtc gcgttgccac ccacgcgga ctccccagct ggcgcgcccc 150  
 tcccatttgc ctgtcctggt caggccccca ccccccttc cacctgacca 200  
 gccatggggg ctgcggtgtt tttcggtgc actttcgtcg cgttcggccc 250  
 ggcttgcgcg cttttcttga tcaactgtggc tggggacccg cttgcggtta 300  
 tcactcctggt cgcaggggca tttttctggc tggctctcct gctcctggcc 350  
 tctgtggtct ggttcatctt ggtccatgtg accgaccggt cagatgcccc 400  
 gctccagtac ggctcctga tttttggtgc tgctgtctct gtcctttctac 450  
 aggaggtgtt ccgctttgcc tactacaagc tgcttaagaa ggcagatgaa 500  
 gggtagcat cgctgagtga ggacggaaga tcacccatct ccacccgcca 550

gatggcctat gtttctggtc tctccttcgg tatcatcagt ggtgtcttct 600  
 ctgttatcaa tattttggct gatgcacttg ggccaggtgt ggttgggatc 650  
 catggagact caccctatta cttcctgact tcagcctttc tgacagcagc 700  
 cattatcctg ctccatacct tttggggagt tgtgttcttt gatgcctgtg 750  
 agaggagacg gtactgggct ttgggcctgg tggttgggag tcacctactg 800  
 acatcgggac tgacattcct gaaccctcctg tatgaggcca gcctgctgcc 850  
 catctatgca gtcactgttt ccatggggct ctgggccttc atcacagctg 900  
 gaggggtccct ccgaagtatt cagcgcagcc tcttgtgtaa ggactgacta 950  
 cctggactga tcgcctgaca gatcccacct gcctgtccac tgcccatgac 1000  
 tgagcccagc cccagcccgg gtccattgcc cacattctct gtctccttct 1050  
 cgtcggctca cccactacc tccagggttt tgctttgtcc ttttgtgacc 1100  
 gttagtctct aagctttacc aggagcagcc tgggttcagc cagtcaagtga 1150  
 ctggtgggtt tgaatctgca cttatcccca ccacctgggg acccccttgt 1200  
 tgtgtccagg actccccctg tgtcagtgtc ctgctctcac cctgcccagg 1250  
 actcacctcc cttcccctct gcaggccgac ggcaggagga cagtcggttg 1300  
 atggtgtatt ctgccctgcg catccccacc gaggactgag ggaacctagg 1350  
 ggggaccctt gggcctgggg tgccctcctg atgtcctcgc cctgtatttc 1400  
 tccatctcca gttctggaca gtgcagggtt ccaagaaaag ggacctagtt 1450  
 tagccattgc cctggagatg aaattaatgg aggcctcaagg atagatgagc 1500  
 tctgagtttc tcagtactcc ctcaagactg gacatcttgg tctttttctc 1550  
 aggcctgagg gggaaccatt tttggtgtga taaataccct aaactgcctt 1600  
 tttttctttt ttgaggtggg gggagggagg aggtatatgt gaactcttct 1650  
 aacctccttg ggctatattt tctctcctcg agttgctcct catggctggg 1700  
 ctcatctcgg tccctttctc cttggtccca gaccttgggg gaaaggaagg 1750  
 aagtgcattg ttgggaactg gcattactgg aactaatggt tttaacctcc 1800  
 ttaaccacca gcatccctcc tctccccaag gtgaagtgga gggtgctgtg 1850  
 gtgagctggc cactccagag ctgcagtgcc actggaggag tcagactacc 1900  
 atgacatcgt agggaaggag gggagatttt tttgtagttt ttaattgggg 1950  
 tgtgggaggg gcggggaggt tttctataaa ctgtatcatt ttctgctgag 2000  
 ggtggagtgt cccatccttt taatcaaggt gattgtgatt ttgactaata 2050  
 aaaaagaatt tgtaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2100  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2136

[illegible][illegible]

```
<210> 304
<211> 240
<212> DNA
<213> Homo sapiens
```

274

<221> unsure  
 <222> 108, 123, 126, 154, 198, 206, 217  
 <223> unknown base

<400> 304  
 aagctgggtt aaggaagcag aggagggtta gattcgttga gtgaggacgg 50  
 aagatcaacc catttccatt cgcgcagatg gcctatgttt ctggtctctc 100  
 ccttcgggnat catcagtggt gtnttntctg ttatcaatat tttggctgat 150  
 gcanttgggc caggtgtggt tgggatccat ggagactcac cctattantt 200  
 cctganttca gccttnttga cagcagccat tatcctgctc 240

<210> 305  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
 <223> unknown base

<400> 305  
 gaccgaccgt tcagatgccc ggttccagta cggcttcctg atttttggtg 50  
 ctgctgtntc tgtccttcta caggaggtgt tccgctttgc ctantacaag 100  
 ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
 atcaccatt tccatccgcc agatggccta tgttnttggt ntttccttcg 200  
 gtatcatcag tgggtgttttn tctgttatca atattttggn tgatgcantt 250  
 gggccaggtg tggttgggat ccatggagan tcaccctatt aattcctgaa 300  
 ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
 ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
 <211> 655  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1, 22, 129, 133, 184  
 <223> unknown base

<400> 306  
 ngttggagaa gtggcgcgga onttcatttg gggtttogg tttccccctt 50  
 tccctttccc cggggtcttg ggtgacattg cacgggcccc tegtggggtc 100  
 gcgttgccac cccacgcgga ctccccagnt gnggcgcct tccatttgc 150  
 ctgtcctggt caggccccca ccccccttc cacntgacca gccatggggg 200  
 ctgcggtgtt tttcggctgc actttcgtcg cgttcggccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggacccg cttcgcgtta tcatcctggt 300  
 cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
 ggttcatctt ggtccatgtg accgaccggt cagatgcccg gctccagtac 400  
 ggccctcctga tttttggtgc tgctgtctct gtccttctac aggaggtgtt 450  
 ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtttagcat 500  
 cgctgagtga ggacggaaga tcacccatct ccatccgccca gatggcctat 550  
 gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
 tattttggct gatgcacttg ggccaggtgt ggttgggatc catggagact 650  
 ccccc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
 gtaaaagaaa gtggccggac cttcattggg gtttcggttc ccccccttcc 50  
 cnttccccgg ggtctggggg tgacattgca ccgcgcccnt cgtgggggtcg 100  
 cgttgccacc ccacgcggac tccccagntg gcgcgccctt cccatttgcc 150  
 tgtcctggtc agggccccac cccccttccc acctgaccag ccatgggggc 200  
 tgcggtgttt ttcgggctgc actttcgtcg cgttcgggac cggccttcgc 250  
 gcttttcttg atcactgtgg ctggggaccc gtttcgcgtt atcatcctgg 300  
 tcgcaggggc atttttctgg ctgggtctccc tgctcctggc ctctgtggtc 350  
 tggttcatct tgggtccatgt gaccgaccgg tcagatgccc gggtccagta 400  
 cggcctcctg atttttggtg ctgctgtctc tgccttcta caggaggtgt 450  
 tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
 tcgctgagtg aggacggaag atcacccatc tccatccgcc agatggccta 550  
 tgtttctggt ctctccttcg gtatcatcag tgggtgtctt totgttatca 600  
 atattttggc tgatgcactt gggccaggtg tggttgggat ccatggagac 650

<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
 gccccaggga gcagtgggtg gttataactc agggccgggtg cccagagccc 50





<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

Met	Ala	Thr	Ala	Arg	Pro	Pro	Trp	Met	Trp	Val	Leu	Cys	Ala	Leu	
1				5					10					15	
Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	
			20						25					30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	
			35						40					45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	
			50						55					60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	
			65						70					75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	
			80						85					90	
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	
			95						100					105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	
			110						115					120	
Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	
			125						130					135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	
			140						145					150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	
			155						160					165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	
			170						175					180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	
			185						190					195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	
			200						205					210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	
			215						220					225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	
			230						235					240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	
			245						250					255	
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	
			260						265					270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	
			275						280					285	
Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser								

```

<400> 313
atggtcaacg accggtggaa gaccatgggc ggcgctgccc aacttgagga 50
ccggccgcgc gacaagccgc agcggccgag ctgcggctac gtgctgtgca 100
ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150
gtgctcttcc tgaaccacgc ccacgcgccg ggcacggcgc cccacctgt 200
cgtcagcact ggggctgcca gcgccaacag cgccctggtc actgtggaaa 250
gggcggacag ctgcacctc agcatcctca ttgaccgcgc ctgccccgac 300
ctcaccgaca gcttcgcacg cctggagagc gcccaggcct cgggtgctgca 350
ggcgctgaca gagcaccagg ccagccacg gctggtgggc gaccaggagc 400
aggagctgct ggacacgctg gccgaccagc tgccccggct gctggcccga 450
gcctcagagc tgcagacgga gtgcatgggg ctgcggaagg ggcattggcac 500
gctgggccag gccctcagcg ccctgcagag tgaqcagggc cgcctcatcc 550

```

agctttctctc tgagagccag ggccacatgg ctcacctggt gaactccgtc 600  
 agcgacatcc tggatgccct gcagagggac cgggggctgg gccggccccg 650  
 caacaaggcc gaccttcaga gagcgccctgc ccggggaacc cggccccggg 700  
 gctgtgccac tggctcccgg ccccgagact gtctggacgt cctcctaage 750  
 ggacagcagg acgatggcgt ctactctgtc tttcccaccc actaccgggc 800  
 cggcttccag gtgtactgtg acatgcgcac ggacggcggc ggctggacgg 850  
 tgtttcagcg ccgggaggac ggctccgtga acttcttccg gggctgggac 900  
 gcgtaccgag acggctttgg caggctcacc ggggagcact ggctagggct 950  
 caagaggatc cacgccctga ccacacaggc tgccctacgag ctgcacgtgg 1000  
 acctggagga ctttgagaat ggcacggcct atgcccgtc cgggagcttc 1050  
 ggcgtgggct tgttctccgt ggaccctgag gaagacgggt acccgctcac 1100  
 cgtggctgac tattccggca ctgcaggcga ctccctcctg aagcacagcg 1150  
 gcatgagggt caccaccaag gaccgtgaca gcgaccattc agagaacaac 1200  
 tgtgccgcct tctaccgcg tgccctggtg taccgcaact gccacacgtc 1250  
 caacctcaat gggcagtacc tgcgcggtgc gcacgcctcc tatgccgacg 1300  
 gcgtggagtg gtccctcctg accggctggc agtactcact caagttctct 1350  
 gagatgaaga tccggccggt ccgggaggac cgctagactg gtgcaccttg 1400  
 tccttgcccc tgctggtccc tgtcgcccca tccccgaccc cacctcactc 1450  
 tttcgtgaat gttctccacc cacctgtgcc tggcgggaccc actctccagt 1500  
 agggaggggc cgggccatcc ctgacacgaa gctccctggg ccggtgaagt 1550  
 cacacatcgc cttctcgccg tccccacccc ctccatttgg cagctcactg 1600  
 atctcttgcc tctgctgatg ggggctggca aacttgacga cccaactcc 1650  
 tgccctgccc cactgtgact ccggtgctgt ttgccgtccc ctggccagga 1700  
 tgggtggagtc tgccccaggc accctctgcc ctgcccggcc aaatacccgg 1750  
 cattatgggg acagagagca gggggcagac agcacccctg gagtccctct 1800  
 agcagatcgt ggggaatgtc aggtctctct gaggtcaggt ctgaggccag 1850  
 tatcctccag ccttcccaat gccaaacccc acccgtttc cctggtgccc 1900  
 agagaaccca ccttcccccc aagggcctca gcctggctgt gggctgggtg 1950  
 gccccatcct accaggccct gaggtcagga tggggagctg ctgccttttg 2000  
 ggaccacgc tccaaggctg agaccagttc cctggaggcc acccaccctg 2050  
 tgccccggca ggccctgggt ctgcagtcct cttacctgct gtgcccacct 2100  
 gctctctgtc tcaaatgagg cccaacccat cccccacca gctcccggcc 2150

gtcctoctac ctggggcagc cggggctgcc atcccatttc tcttgcctct 2200  
 ggaaggtggg tggggccctg caccgtggg ctggactgcg ctaatgggaa 2250  
 gctcttggtt ttctgggctg gggcctaggc agggctggga tgaggcttgt 2300  
 acaacccccca ccaccaattt cccagggact ccagggtcct gaggcctccc 2350  
 aggagggcct tgggggtgat gacccttcc ctgaggtggc tgtctccatg 2400  
 aggaggccaa cccttgccat tgaccgtggc cacctggacc caggccaggc 2450  
 ccggcccggc gagtgggtcaa gggacaggga ccacctcacc gggcaaatgg 2500  
 ggtcgggggg actggggcac cagaccaggc accacctgga cactttcttg 2550  
 ttgaatcctc ccaacaccca gcacgtgtc atccccactc cttgtgtgca 2600  
 cacatgcaga ggtgagacct gcaggctccc aggaccagca gccacaaggg 2650  
 cagggtgga gccgggtcct cagctgtctg ctcagcagcc ctggaccgcg 2700  
 gtgcgttacg tcaggcccag atgcaggcg gcttttccaa ggcctcctga 2750  
 tgggggcctc cgaaagggt ggagtcagcc ttggggagct gcctagcagc 2800  
 ctctctcgg gcaggagggg aggtggcttc ctccaaagga caccgatgg 2850  
 caggtgccta gggggtgtgg ggttccgttc tcccttcccc tccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttggt 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgccac caggtcatcc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
 1 5 10 15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
 20 25 30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105

Ala Arg Leu Glu Ser Ala Gln Ala Ser Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln Pro Arg Leu Val Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu Ala Asp Gln Leu Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln Thr Glu Cys Met Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln Gly Leu Ser Ala Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu Leu Ser Glu Ser Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val Ser Asp Ile Leu Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg Pro Arg Asn Lys Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr Arg Pro Arg Gly Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu Asp Val Leu Leu Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val Phe Pro Thr His Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met Arg Thr Asp Gly Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp Gly Ser Val Asn Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly Phe Gly Arg Leu Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile His Ala Leu Thr Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu Glu Asp Phe Glu Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe Gly Val Gly Leu Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro Leu Thr Val Ala Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu Lys His Ser Gly Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp His Ser Glu Asn Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp Tyr Arg Asn Cys His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
425 430 435  
Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
440 445 450  
Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
455 460

<210> 315  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
cacacgtcca acctcaatgg gcag 24

<210> 316  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
gaccagcagg gcccaaggaca agg 23

<210> 317  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
gttctctgag atgaagatcc ggccggtccg ggagtaccgc ttag 44

<210> 318  
<211> 1841  
<212> DNA  
<213> Homo sapiens

<400> 318  
gcagtcagag acttccccctg cccctogctg ggaaagaaca ttaggaatgc 50  
cttttagtgc cttgcttct gaactagctc acagtagccc ggcggcccag 100  
ggcaatccga ccacatttca ctctaccgc tgtaggaatc cagatgcagg 150  
ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
gcgcacagag cacagggctc cctottcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

ttctcaaatg gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtggctgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
 ttgtacagaa caatggaaat ggcatggaga caattgctac cagttctata 600  
 aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
 totaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
 tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
 ctgacagtgg caaggcctgg ctgtggatgg atggaacccc tttcacttct 800  
 gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
 tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
 agcgttgtgt ctgtgagaga agggcaggaa tggatgaagcc agagagcctc 950  
 catgtccccc ctgaaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
 ctacaaatag cagagtgagc caggcgggtgc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaaag actatctctc tgactagtac 1100  
 aaaatggggt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaacca taatgtcatc tgccttcttg gcttagagat 1250  
 aacttttagc tctctttctt ctcaatgtct aatatcacct ccctgttttc 1300  
 atgtcttcct tacacttggg ggaataagaa actttttgaa gtagaggaaa 1350  
 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagtca cttccagat tgtaccagca aatacacaag gaattctttt 1450  
 tgtttgtttc agttcatact agtcccttcc caatccatca gtaaagaccc 1500  
 catctgcctt gtccatgccg tttcccaaca gggatgtcac ttgatatgag 1550  
 aatctcaaat ctcaatgcct tataagcatt ccttctctgtg tccattaaga 1600  
 ctctgataat tgtctccctt ccataggaat ttctcccagg aaagaaatat 1650  
 atcccatctt ccgtttcata tcagaactac cgtccccgat attcccttca 1700  
 gagagattaa agaccagaaa aaagtgagcc tcttcatctg cacctgtaat 1750  
 agtttcagtt cctatcttct tccattgacc catatctata cctttcaggt 1800  
 actgaagatt taataataat aaatgtaaat actgtgaaaa a 1841

<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

Met Gln Ala Lys Tyr Ser Ser Thr Arg Asp Met Leu Asp Asp Asp  
1 5 10 15  
Gly Asp Thr Thr Met Ser Leu His Ser Gln Ala Ser Ala Thr Thr  
20 25 30  
Arg His Pro Glu Pro Arg Arg Thr Glu His Arg Ala Pro Ser Ser  
35 40 45  
Thr Trp Arg Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val  
50 55 60  
Leu Leu Ile Gly Leu Ala Ala Leu Gly Leu Leu Phe Phe Gln Tyr  
65 70 75  
Tyr Gln Leu Ser Asn Thr Gly Gln Asp Thr Ile Ser Gln Met Glu  
80 85 90  
Glu Arg Leu Gly Asn Thr Ser Gln Glu Leu Gln Ser Leu Gln Val  
95 100 105  
Gln Asn Ile Lys Leu Ala Gly Ser Leu Gln His Val Ala Glu Lys  
110 115 120  
Leu Cys Arg Glu Leu Tyr Asn Lys Ala Gly Ala His Arg Cys Ser  
125 130 135  
Pro Cys Thr Glu Gln Trp Lys Trp His Gly Asp Asn Cys Tyr Gln  
140 145 150  
Phe Tyr Lys Asp Ser Lys Ser Trp Glu Asp Cys Lys Tyr Phe Cys  
155 160 165  
Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn Lys Gln Glu Asp  
170 175 180  
Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe Phe Tyr Ser  
185 190 195  
Tyr Trp Thr Gly Leu Leu Arg Pro Asp Ser Gly Lys Ala Trp Leu  
200 205 210  
Trp Met Asp Gly Thr Pro Phe Thr Ser Glu Leu Phe His Ile Ile  
215 220 225  
Ile Asp Val Thr Ser Pro Arg Ser Arg Asp Cys Val Ala Ile Leu  
230 235 240  
Asn Gly Met Ile Phe Ser Lys Asp Cys Lys Glu Leu Lys Arg Cys  
245 250 255  
Val Cys Glu Arg Arg Ala Gly Met Val Lys Pro Glu Ser Leu His  
260 265 270  
Val Pro Pro Glu Thr Leu Gly Glu Gly Asp  
275 280

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens



<220>  
<223> Synthetic oligonucleotide probe

<400> 324  
atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325  
<211> 2988  
<212> DNA  
<213> Homo sapiens

<400> 325  
gccgagcgca agaaccctgc gcagcccaga gcagctgctg gaggggaatc 50  
gaggcgcggc tccggggatt cggctcgggc cgctggctct gctctgcggg 100  
gagggagcgg gcccgcccgc gggggccgag ccctccggat ccgccccctc 150  
cccgggtccc cccctcggga gactcctctg gctgctctgg gggttcgccg 200  
gggcccggga cccgcggtcc gggcgccatg cgggcatcgc tgctgctgtc 250  
ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300  
ccctgagcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350  
ccgccccaac ctggagactc tgagctgccg ccgcgcggca acaccaacgc 400  
ggcgcgcccg cccaactcgg tgagcccgg agcggagcgc gagaagcccg 450  
gggcccggga aggcgcgggg gagaattggg agccgcgcgt cttgccctac 500  
caccctgcac agcccggcca ggccgcaaaa aaggccgtca ggacccgcta 550  
catcagcacg gagctgggca tcaggcagag gctgctggtg gcggtgctga 600  
cctctcagac cacgctgccc acgctgggcg tggccgtgaa ccgcacgctg 650  
gggcaccggc tggagcgtgt ggtgttcctg acgggcgcac ggggcccgcg 700  
ggccccacct ggcattggcag tggtgacgct gggcgaggag cgaccattg 750  
gacacctgca cctggcgtg cgccacctgc tggagcagca cggcgacgac 800  
tttgactggt tcttcctggt gcctgacacc acctacaccg aggcgcacgg 850  
cctggcacgc ctaactggcc acctcagcct ggccctccgc gccacactgt 900  
acctgggccc gcccaggac ttcattcggc gagagcccac ccccggccgc 950  
tactgccacg gaggttttgg ggtgctgctg tcgcgcatgc tgctgcaaca 1000  
actgcgcccc cacctggaag gctgccgcaa cgacatcgtc agtgcgcgcc 1050  
ctgacgagtg gctgggtcgc tgcatctctg atgccaccgg ggtgggctgc 1100  
actggtgacc acgagggggg gcactatagc catctggagc tgagccctgg 1150  
ggagccagtg caggaggggg accctcattt ccgaagtgcc ctgacagccc 1200  
accctgtgcg tgaccctgtg cacatgtacc agctgcacaa agctttcgcc 1250  
cgagctgaac tggaacgcac gtaccaggag atccaggagt tacagtggga 1300

gatccagaat accagccatc tggccgttga tggggaccg gacagctgctt 1350  
 ggcccgtggg tattccagca ccatcccgcc cggcctcccg ctttgaggtg 1400  
 ctgcgctggg actacttcac ggagcagcac gctttctcct gcgccgatgg 1450  
 ctacccccgc tgccactgc gtggggctga ccgggctgat gtggccgatg 1500  
 ttctggggac agctctagag gagctgaacc gccgctacca cccggccttg 1550  
 cggctccaga agcagcagct ggtgaatggc taccgacgct ttgatccggc 1600  
 cgggggtatg gaatacacgc tggacttgca gctggaggca ctgaccccc 1650  
 agggaggccg ccggccccctc actcgccgag tgcagctgct ccggccgctg 1700  
 agccgcgtgg agatcttgcc tgtgccctat gtcactgagg cctcacgtct 1750  
 cactgtgctg ctgcctctag ctgcggctga gcgtgacctg gcccttggt 1800  
 tcttgagggc ctttgccact gcagcactgg agcctggtga tgctgcggca 1850  
 gccctgaccc tgctgctact gtatgagccg cgccaggccc agcgcgtggc 1900  
 ccatgcagat gtcttcgcac ctgtcaaggc ccacgtggca gagctggagc 1950  
 ggcgtttccc cgggtgcccgg gtgccatggc tcagtgtgca gacagccgca 2000  
 ccctcaccac tgcgcctcat ggatctactc tccaagaagc acccgctgga 2050  
 cacactgttc ctgctggccg ggccagacac ggtgctcagc cctgacttcc 2100  
 tgaaccgctg ccgcatgcat gccatctccg gctggcaggc cttctttccc 2150  
 atgcatttcc aagccttcca ccaggtgtg gccccaccac aagggcctgg 2200  
 gccccagag ctgggcccgtg aactggccg ctttgatgc caggcagcca 2250  
 gcgaggcctg cttctacaac tccgactacg tggcagcccg tgggcgcctg 2300  
 ggggcagcct cagaacaaga agaggagctg ctggagagcc tggatgtgta 2350  
 cgagctgttc ctccacttct ccagtctgca tgtgctgcgg gcggtggagc 2400  
 cggcgtgct gcagcgtac cgggccaga cgtgcagcgc gaggctcagt 2450  
 gaggacctgt accaccgctg cctccagagc gtgcttgagg gcctcggtc 2500  
 ccgaaccag ctggccatgc tactctttga acaggagcag ggcaacagca 2550  
 cctgaccca ccctgtcccc gtgggccgtg gcatggccac accccacccc 2600  
 acttctcccc caaaaccaga gccacctgcc agcctcgctg ggcagggtg 2650  
 gccgtagcca gacccaagc tggccactg gtccctctc tggtctctgtg 2700  
 ggtccctggg ctctggaaa gactggggg acgtgcccc agagccacc 2750  
 acttctcatc ccaaaccag tttccctgcc ccctgacgt gctgattcgg 2800  
 gctgtggcct ccacgtattt atgcagtaca gtctgcctga cgccagccct 2850  
 gcctctgggc cctgggggct gggctgtaga agagttgttg gggaaggagg 2900

gagctgagga gggggcatct cccaacttct cccttttgga ccctgccgaa 2950

gctccctgcc ttttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met	Arg	Ala	Ser	Leu	Leu	Leu	Ser	Val	Leu	Arg	Pro	Ala	Gly	Pro	
1				5					10					15	
Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser	
				20					25					30	
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro	
				35					40					45	
Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg	
				50					55					60	
Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly	
				65					70					75	
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro	
				80					85					90	
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg	
				95					100					105	
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu	
				110					115					120	
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val	
				125					130					135	
Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe	
				140					145					150	
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val	
				155					160					165	
Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala	
				170					175					180	
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe	
				185					190					195	
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala	
				200					205					210	
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr	
				215					220					225	
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly	
				230					235					240	
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu	
				245					250					255	
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile	
				260					265					270	





[illegible]

```
<400> 329
  atggctcagt gtgcagacag 20
```

```
<210> 330
<211> 24
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

```
<400> 330
gcatgctgct ccgtgaagta gtcc 24
```

```
<210> 331
<211> 24
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

```
<400> 331
atgcatggga aagaaggcct gccc 24
```

```
<210> 332
<211> 47
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Synthetic oligonucleotide probe

```
<400> 332
  tgcactggtg accacgaggg ggtgcactat agccatctgg agctgaq 47
```

```
<210> 333
<211> 1095
<212> DNA
<213> Homo sapiens
```

```
<400> 333
gctctggccg gccccggcga ttggtcaccg cccgctaggg gacagccctg 50
gctcctctg atttgcaagc gctggccacc tccccacacc ccttgccaac 100
gctcccctag tggagaaaag gagtagctat tagccaattc ggaggggccc 150
gctttttaga agcttgattt ctttgaaga tgaaagacta gcggaagctc 200
tgctcttttc ccagtgggc gagggaaactc ggggcgattg gctgggaact 250
gtatccacc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300
ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350
gccacgaaa ctggaggcaa agagggttgc tcaacqcccc gcctcattgg 400
```





Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
ggcggctggg ctgtttgggt tgagcgctcg ccgtcttttg gcggcagcgg 50  
cgacgcgagg gctcccggcc gcccgcgctcc gctgggaatc tagctttctcc 100  
aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc ccccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaaccc agactcccat gggtatgaca aggaccccg tttggacgtc 250  
tggaacatgc gacttgctct cttctttggc gtctccatca tcctggctct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
cccgccgca agctgagagg cttgtgaaat accgagaggc caatggcctt 400  
cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagacccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA



tctaactact ttgtgcggt ctacacggag cgcgtgctgg tgaacctgcc 1550  
gacaccggac ttcagcatgc cctacaacgt gatctgcctc acgtgcactg 1600  
tggtggccgt gtgctacggc tccttctaca atctcctcac ccgaaccttc 1650  
cacatcgagg agccccgcac aggtggcctg gccaaagcggc tggccaacct 1700  
tatccggcgc gcccgagggtg tccccccact ctgattcttg ccctttccag 1750  
cagctgcagc tgccgtttct ctctggggag gggagcccaa gggctgtttc 1800  
tgccacttgc tctcctcaga gttggctttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcct cacctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggc cgggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaaggtga tgggggtgtgc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
Met Pro Leu Ala Leu Leu Val Leu Leu Leu Leu Gly Pro Gly Gly  
1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala Ser Phe Lys	Pro Leu Gly Leu Ala	Asn Asp Thr Asp His Tyr	155	160	165
Phe Leu Arg Tyr	Ala Val Leu Pro Arg	Glu Val Val Cys Thr Glu	170	175	180
Asn Leu Thr Pro	Trp Lys Lys Leu Leu	Pro Cys Ser Ser Lys Ala	185	190	195
Gly Leu Ser Val	Leu Leu Lys Ala Asp	Arg Leu Phe His Thr Ser	200	205	210
Tyr His Ser Gln	Ala Val His Ile Arg	Pro Val Cys Arg Asn Ala	215	220	225
Arg Cys Thr Ser	Ile Ser Trp Glu Leu	Arg Gln Thr Leu Ser Val	230	235	240
Val Phe Asp Ala	Phe Ile Thr Gly Gln	Gly Lys Lys Asp Trp Ser	245	250	255
Leu Phe Arg Met	Phe Ser Arg Thr Leu	Thr Glu Pro Cys Pro Leu	260	265	270
Ala Ser Glu Ser	Arg Val Tyr Val Asp	Ile Thr Thr Tyr Asn Gln	275	280	285
Asp Asn Glu Thr	Leu Glu Val His Pro	Pro Pro Thr Thr Thr Tyr	290	295	300
Gln Asp Val Ile	Leu Gly Thr Arg Lys	Thr Tyr Ala Ile Tyr Asp	305	310	315
Leu Leu Asp Thr	Ala Met Ile Asn Asn	Ser Arg Asn Leu Asn Ile	320	325	330
Gln Leu Lys Trp	Lys Arg Pro Pro Glu	Asn Glu Ala Pro Pro Val	335	340	345
Pro Phe Leu His	Ala Gln Arg Tyr Val	Ser Gly Tyr Gly Leu Gln	350	355	360
Lys Gly Glu Leu	Ser Thr Leu Leu Tyr	Asn Thr His Pro Tyr Arg	365	370	375
Ala Phe Pro Val	Leu Leu Leu Asp Thr	Val Pro Trp Tyr Leu Arg	380	385	390
Leu Tyr Val His	Thr Leu Thr Ile Thr	Ser Lys Gly Lys Glu Asn	395	400	405
Lys Pro Ser Tyr	Ile His Tyr Gln Pro	Ala Gln Asp Arg Leu Gln	410	415	420
Pro His Leu Leu	Glu Met Leu Ile Gln	Leu Pro Ala Asn Ser Val	425	430	435
Thr Lys Val Ser	Ile Gln Phe Glu Arg	Ala Leu Leu Lys Trp Thr	440	445	450
Glu Tyr Thr Pro	Asp Pro Asn His Gly	Phe Tyr Val Ser Pro Ser	455	460	465

Val	Leu	Ser	Ala	Leu	Val	Pro	Ser	Met	Val	Ala	Ala	Lys	Pro	Val
				470					475					480
Asp	Trp	Glu	Glu	Ser	Pro	Leu	Phe	Asn	Ser	Leu	Phe	Pro	Val	Ser
				485					490					495
Asp	Gly	Ser	Asn	Tyr	Phe	Val	Arg	Leu	Tyr	Thr	Glu	Pro	Leu	Leu
				500					505					510
Val	Asn	Leu	Pro	Thr	Pro	Asp	Phe	Ser	Met	Pro	Tyr	Asn	Val	Ile
				515					520					525
Cys	Leu	Thr	Cys	Thr	Val	Val	Ala	Val	Cys	Tyr	Gly	Ser	Phe	Tyr
				530					535					540
Asn	Leu	Leu	Thr	Arg	Thr	Phe	His	Ile	Glu	Glu	Pro	Arg	Thr	Gly
				545					550					555
Gly	Leu	Ala	Lys	Arg	Leu	Ala	Asn	Leu	Ile	Arg	Arg	Ala	Arg	Gly
				560					565					570

Val Pro Pro Leu

<210> 341  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 341  
 tggacaccgt accctggtat ctgc 24

<210> 342  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> Artificial Sequence  
 <222> 1-24  
 <223> Synthetic oligonucleotide probe

<400> 342  
 ccaactctga ggagagcaag tggc 24

<210> 343  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 343  
 tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
 <211> 762  
 <212> DNA  
 <213> Homo sapiens

```
<400> 344
caacatgggg tccagcagct tcttggtcct catggtgtct ctcgttcttg 50
tgaccctggg ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100
gtttgcccag ctgacaacgt acgctgcttc aagtccgata ctccccagtg 150
tcacacagac caggactgtc tgggggaaag gaagtgttgt tacctgcact 200
gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250
aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300
gtgtccaggc tcctcctcta ccagggtgcc tcagaaatga tgctgggtcc 350
tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400
gagacttgga atatggaaga agcaataccc aacccaccca aagaaaacct 450
gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500
gacccaggg acggtacttt cctctctac ctggtgctcc tccctaattgc 550
tcatgaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600
aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650
gtcagagaag agaaactggt cctcaccaga tgctgaatct gctggtgcct 700
tgatcttgga cttcccagcc tctagaactg taagaaataa atatttgctg 750
tttataatcc aa 762
```

```
<210> 345
<211> 111
<212> PRT
<213> Homo sapiens
```

```
<400> 345
Met Gly Ser Ser Ser Phe Leu Val Leu Met Val Ser Leu Val Leu
  1          5          10          15
Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys
          20          25          30
Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp
          35          40          45
Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys
          50          55          60
Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys
          65          70          75
Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro
          80          85          90
Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser
          95          100          105
Thr Arg Cys Pro Gln Lys
          110
```

<210> 346  
<211> 2528  
<212> DNA  
<213> Homo sapiens

<400> 346  
aaactcagca cttgccggag tggctcattg ttaagacaaa ggggtgtgcac 50  
ttcctggcca ggaaacctga gcggtgagac tcccagctgc ctacatcaag 100  
gccccaggac atgcagaacc ttcctctaga acccgaccca ccaccatgag 150  
gtcctgcctg tggagatgca ggcacctgag ccaaggcgtc cagtggctct 200  
tgcttctggc tgtcctggtc ttctttctct tcgccttgcc ctcttttatt 250  
aaggagcctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
agaaaggtct ctacagtccc tggcaaagcc taagtcccag gcacccacaa 350  
gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
ctcaacacac aaaccagcc caaggccac accaccggag acagaggaaa 450  
ggaggccaac caggcaccgc cggaggagca ggacaaggtg cccacacag 500  
cacagagggc agcatggaag agcccagaaa aagagaaaac catggtgaac 550  
aactgtcac ccagagggca agatgcaggg atggcctctg gcaggacaga 600  
ggcacaatca tggaagagcc aggacacaaa gacgaccaa ggaaatgggg 650  
gccagaccag gaagctgacg gcctccagga cgggtgtcaga gaagcaccag 700  
ggcaaagcgg caaccacagc caagacgctc attcccaaaa gtcagcacag 750  
aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
tgaccacagc agtcatcca cctaaggaga agaaacctca ggccaccca 850  
ccccctgcc ctttcagag ccccacgacg cagagaaacc aaagactgaa 900  
ggccgccaac ttcaaactct agcctcgggtg ggattttgag gaaaaatata 950  
gcttcgaaat aggaggcctt cagacgactt gccctgactc tgtgaagatc 1000  
aaagcctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
tctcttctg gactccagac acttcaacca gagtgagtgg gaccgcctgg 1100  
aacactttgc accacccttt ggcttcatgg agctcaacta ctcttggtg 1150  
cagaaggtcg tgacacgctt ccctccagtg cccagcagc agctgctcct 1200  
ggccagcctc cccgctggga gcctccggtg catcacctgt gccgtgggtg 1250  
gcaacggggg catcctgaac aactcccaca tgggcccagga gatagacagt 1300  
cacgactacg tgttccgatt gagcggagct ctcatataag gctacgaaca 1350  
ggatgtgggg actcggacat cttctacgg ctttaccgcc ttctccctga 1400  
cccagtcact ctttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



gggaaggacg tccgctactt gcacttcctg gaaggcaccc gggactatga 1500  
 gtggctggaa gcactgctta tgaatcagac ggtgatgtca aaaaaccttt 1550  
 tctgggttcag gcacagaccc caggaagctt ttcggggaagc cctgcacatg 1600  
 gacaggtacc tgttgctgca cccagacttt ctccgataca tgaagaacag 1650  
 gttttctgagg tctaagaccc tggatgggtgc ccactggagg atataccgcc 1700  
 ccaccactgg ggccctcctg ctgctcactg cccttcagct ctgtgaccag 1750  
 gtgagtgtct atggcttcat cactgagggc catgagcgct tttctgatca 1800  
 ctactatgat acatcatgga agcggctgat cttttacata aaccatgact 1850  
 tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
 cggctgtacc agcgtcctgg tcccggaaact gccaaagcca agaactgacc 1950  
 ggggccaggg ctgccatggt ctccctgcct gctccaaggc acaggataca 2000  
 gtgggaatct tgagactctt tggccatttc ccatggctca gactaagctc 2050  
 caagcccttc aggagttcca agggaacact tgaaccatgg acaagactct 2100  
 ctcaagatgg caaatggcta attgaggttc tgaagttctt cagtacattg 2150  
 ctgtaggtcc tgaggccagg gattttttaat taaatggggg gatgggtggc 2200  
 caataccaca attcctgctg aaaaacactc ttccagtcca aaagcttctt 2250  
 gatacagaaa aaagagcctg gatttacaga aacatataga tctggtttga 2300  
 attccagatc gagtttacag ttgtgaaatc ttgaaggat tacttaactt 2350  
 cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
 ggtctatact tgtccttgct ttttaagctat ttgacaactc tacgtgttgt 2450  
 agaaaactga taataatata aatgattgtt gtccatggaa aggcaaataa 2500  
 attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347  
 <211> 600  
 <212> PRT  
 <213> Homo sapiens

<400> 347  
 Met Arg Ser Cys Leu Trp Arg Cys Arg His Leu Ser Gln Gly Val  
 1 5 10 15  
 Gln Trp Ser Leu Leu Leu Ala Val Leu Val Phe Phe Leu Phe Ala  
 20 25 30  
 Leu Pro Ser Phe Ile Lys Glu Pro Gln Thr Lys Pro Ser Arg His  
 35 40 45  
 Gln Arg Thr Glu Asn Ile Lys Glu Arg Ser Leu Gln Ser Leu Ala  
 50 55 60  
 Lys Pro Lys Ser Gln Ala Pro Thr Arg Ala Arg Arg Thr Thr Ile

	65	70	75
Tyr Ala Glu Pro	Ala Pro Glu Asn Asn	Ala Leu Asn Thr Gln Thr	80 85 90
Gln Pro Lys Ala	His Thr Thr Gly Asp	Arg Gly Lys Glu Ala Asn	95 100 105
Gln Ala Pro Pro	Glu Glu Gln Asp Lys	Val Pro His Thr Ala Gln	110 115 120
Arg Ala Ala Trp	Lys Ser Pro Glu Lys	Glu Lys Thr Met Val Asn	125 130 135
Thr Leu Ser Pro	Arg Gly Gln Asp Ala	Gly Met Ala Ser Gly Arg	140 145 150
Thr Glu Ala Gln	Ser Trp Lys Ser Gln	Asp Thr Lys Thr Thr Gln	155 160 165
Gly Asn Gly Gly	Gln Thr Arg Lys Leu	Thr Ala Ser Arg Thr Val	170 175 180
Ser Glu Lys His	Gln Gly Lys Ala Ala	Thr Thr Ala Lys Thr Leu	185 190 195
Ile Pro Lys Ser	Gln His Arg Met Leu	Ala Pro Thr Gly Ala Val	200 205 210
Ser Thr Arg Thr	Arg Gln Lys Gly Val	Thr Thr Ala Val Ile Pro	215 220 225
Pro Lys Glu Lys	Lys Pro Gln Ala Thr	Pro Pro Pro Ala Pro Phe	230 235 240
Gln Ser Pro Thr	Thr Gln Arg Asn Gln	Arg Leu Lys Ala Ala Asn	245 250 255
Phe Lys Ser Glu	Pro Arg Trp Asp Phe	Glu Glu Lys Tyr Ser Phe	260 265 270
Glu Ile Gly Gly	Leu Gln Thr Thr Cys	Pro Asp Ser Val Lys Ile	275 280 285
Lys Ala Ser Lys	Ser Leu Trp Leu Gln	Lys Leu Phe Leu Pro Asn	290 295 300
Leu Thr Leu Phe	Leu Asp Ser Arg His	Phe Asn Gln Ser Glu Trp	305 310 315
Asp Arg Leu Glu	His Phe Ala Pro Pro	Phe Gly Phe Met Glu Leu	320 325 330
Asn Tyr Ser Leu	Val Gln Lys Val Val	Thr Arg Phe Pro Pro Val	335 340 345
Pro Gln Gln Gln	Leu Leu Leu Ala Ser	Leu Pro Ala Gly Ser Leu	350 355 360
Arg Cys Ile Thr	Cys Ala Val Val Gly	Asn Gly Gly Ile Leu Asn	365 370 375
Asn Ser His Met	Gly Gln Glu Ile Asp	Ser His Asp Tyr Val Phe	

380	385	390
Arg Leu Ser Gly	Ala Leu Ile Lys Gly Tyr Glu Gln Asp Val Gly	
395	400	405
Thr Arg Thr Ser	Phe Tyr Gly Phe Thr Ala Phe Ser Leu Thr Gln	
410	415	420
Ser Leu Leu Ile	Leu Gly Asn Arg Gly Phe Lys Asn Val Pro Leu	
425	430	435
Gly Lys Asp Val	Arg Tyr Leu His Phe Leu Glu Gly Thr Arg Asp	
440	445	450
Tyr Glu Trp Leu	Glu Ala Leu Leu Met Asn Gln Thr Val Met Ser	
455	460	465
Lys Asn Leu Phe	Trp Phe Arg His Arg Pro Gln Glu Ala Phe Arg	
470	475	480
Glu Ala Leu His	Met Asp Arg Tyr Leu Leu Leu His Pro Asp Phe	
485	490	495
Leu Arg Tyr Met	Lys Asn Arg Phe Leu Arg Ser Lys Thr Leu Asp	
500	505	510
Gly Ala His Trp	Arg Ile Tyr Arg Pro Thr Thr Gly Ala Leu Leu	
515	520	525
Leu Leu Thr Ala	Leu Gln Leu Cys Asp Gln Val Ser Ala Tyr Gly	
530	535	540
Phe Ile Thr Glu	Gly His Glu Arg Phe Ser Asp His Tyr Tyr Asp	
545	550	555
Thr Ser Trp Lys	Arg Leu Ile Phe Tyr Ile Asn His Asp Phe Lys	
560	565	570
Leu Glu Arg Glu	Val Trp Lys Arg Leu His Asp Glu Gly Ile Ile	
575	580	585
Arg Leu Tyr Gln	Arg Pro Gly Pro Gly Thr Ala Lys Ala Lys Asn	
590	595	600

<210> 348  
 <211> 496  
 <212> DNA  
 <213> Homo sapiens

<400> 348  
 cgatgcgcgg acccgggcac cccctcctcc tggggctgct gctgggtgctg 50  
 gggccttcgc cggagcagcg agtggaatt gttcctcgag atctgaggat 100  
 gaaggacaag tttctaaaac accttacagg ccctctttat tttagtccaa 150  
 agtgcagcaa acacttccat agactttatc acâacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgccagg cttottaccc ggctggctgt 250  
 cagtccagtg tgcattggagg ataagtgagc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaac caacagggaa acagaactat 350

ctttatacac atcccctcat ggacaagaga tttatTTTTg cagacagact 400  
 cttccataag tcctttgagt tttgtatgtt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtac ttgacagtgt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
 Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Leu Val  
 1 5 10 15  
 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90  
 Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
 gggctggggc ccgccgcagc tccagctggc cggcttggtc ctgcggtccc 50  
 ttctctggga ggcccgaccc cggccgcgcc cagccccac catgccaccc 100  
 gcggggctcc gccgggccgc gccgctcacc gcaatcgctc tgttggtgct 150  
 gggggctccc ctggtgctgg ccggcgagga ctgcctgtgg tacctggacc 200  
 ggaatggctc ctggcatccg gggtttaact gcgagttctt caccttctgc 250  
 tgcgggacct gctaccatcg gtactgctgc agggacctga ccttgcttat 300  
 caccgagagg cagcagaagc actgcctggc cttcagcccc aagaccatag 350  
 caggcatcgc ctcagctgtg atcctotTTg ttgctgtggt tgccaccacc 400  
 atctgctgct tcctctgttc ctgttgctac ctgtaccgcc ggcgccagca 450  
 gctccagagc ccatttgaag gccaggagat tccaatgaca ggcattccag 500  
 tgcagccagt atacccatac cccaggacc ccaaagctgg ccctgcaccc 550  
 ccacagcctg gtttcatgta cccacctagt ggtcctgctc cccaatatcc 600

CCDS:100000.1

actctaccca gctgggcccc cagtctacaa ccctgcagct cctcctccct 650  
 atatgccacc acagccctct taccgaggag cctgaggaac cagccatgtc 700  
 tctgctgccc cttcagtgat gccaaccttg ggagatgccc tcatcctgta 750  
 cctgcatctg gtcctggggg tggcaggagt cctccagcca ccaggcccca 800  
 gaccaagcca agccctgggc cctactgggg acagagcccc agggaagtgg 850  
 aacaggagct gaactagaac tatgaggggt tggggggagg gcttggaatt 900  
 atgggctatt tttactgggg gcaaggagg gagatgacag cctgggtcac 950  
 agtgccctgtt ttcaaatagt ccctctgctc ccaagatccc agccaggaag 1000  
 gctggggccc tactgtttgt cccctctggg ctgggggtggg gggagggagg 1050  
 aggttccgtc agcagctggc agtagccctc ctctctggct gccccactgg 1100  
 ccacatctct ggctgctag attaaagctg taaagacaaa a 1141

<210> 351  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 351  
 Met Pro Pro Ala Gly Leu Arg Arg Ala Ala Pro Leu Thr Ala Ile  
     1                    5                    10                    15  
 Ala Leu Leu Val Leu Gly Ala Pro Leu Val Leu Ala Gly Glu Asp  
                     20                    25                    30  
 Cys Leu Trp Tyr Leu Asp Arg Asn Gly Ser Trp His Pro Gly Phe  
                     35                    40                    45  
 Asn Cys Glu Phe Phe Thr Phe Cys Cys Gly Thr Cys Tyr His Arg  
                     50                    55                    60  
 Tyr Cys Cys Arg Asp Leu Thr Leu Leu Ile Thr Glu Arg Gln Gln  
                     65                    70                    75  
 Lys His Cys Leu Ala Phe Ser Pro Lys Thr Ile Ala Gly Ile Ala  
                     80                    85                    90  
 Ser Ala Val Ile Leu Phe Val Ala Val Val Ala Thr Thr Ile Cys  
                     95                    100                    105  
 Cys Phe Leu Cys Ser Cys Cys Tyr Leu Tyr Arg Arg Arg Gln Gln  
                     110                    115                    120  
 Leu Gln Ser Pro Phe Glu Gly Gln Glu Ile Pro Met Thr Gly Ile  
                     125                    130                    135  
 Pro Val Gln Pro Val Tyr Pro Tyr Pro Gln Asp Pro Lys Ala Gly  
                     140                    145                    150  
 Pro Ala Pro Pro Gln Pro Gly Phe Met Tyr Pro Pro Ser Gly Pro  
                     155                    160                    165  
 Ala Pro Gln Tyr Pro Leu Tyr Pro Ala Gly Pro Pro Val Tyr Asn  
                     170                    175                    180

Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro  
 185 190 195

Gly Ala

<210> 352  
 <211> 3226  
 <212> DNA  
 <213> Homo sapiens

<400> 352  
 ggggggagcta ggccggcggc agtgggtggtg gcggcggcgc aaggggtgagg 50  
 gcggccccag aaccccaggt aggtagagca agaagatggt gtttctgccc 100  
 ctcaaattggt cccttgcaac catgtcattt ctactttcct cactgttggc 150  
 tctcttaact gtgtccactc cttcatggtg tcagagcact gaagcatctc 200  
 caaaacgtag tgatgggaca ccatttcctt ggaataaaat acgacttcct 250  
 gagtacgtca tcccagttca ttatgatctc ttgatccatg caaaccttac 300  
 cacgctgacc ttctggggaa ccacgaaagt agaaatcaca gccagtcagc 350  
 ccaccagcac catcatcctg catagtcacc acctgcagat atctagggcc 400  
 accctcagga agggagctgg agagaggcta tcggaagaac ccctgcaggt 450  
 cctggaacac cccctcagg agcaaattgc actgctggct cccgagcccc 500  
 tccttgtcgg gctcccgtag acagttgtca ttactatgc tggcaatctt 550  
 tcggagactt tccacggatt ttacaaaagc acctacagaa ccaaggaagg 600  
 ggaactgagg atactagcat caacacaatt tgaaccact gcagctagaa 650  
 tggcctttcc ctgctttgat gaacctgcct tcaaagcaag tttctcaatc 700  
 aaaattagaa gagagccaag gcacctagcc atctccaata tgccattggt 750  
 gaaatctgtg actgttgctg aaggactcat agaagaccat tttgatgtca 800  
 ctgtgaagat gagcacctat ctggtggcct tcatcatttc agattttgag 850  
 tctgtcagca agataaccaa gagtggagtc aaggtttctg tttatgctgt 900  
 gccagacaag ataaatcaag cagattatgc actggatgct gcggtgactc 950  
 ttctagaatt ttatgaggat tatttcagca taccgtatcc cctacccaaa 1000  
 caagatcttg ctgctattcc cgactttcag tctggtgcta tggaaaactg 1050  
 gggactgaca acatatagag aatctgctct gttgtttgat gcagaaaagt 1100  
 cttctgcata aagtaagctt ggcatacag tgactgtggc ccatgaactg 1150  
 gccaccagt ggtttgggaa cctggtcact atggaatggt ggaatgatct 1200  
 ttggctaaat gaaggatttg ccaaatttat ggagtttgtg tctgtcagtg 1250  
 tgacccatcc tgaactgaaa gttggagatt atttcttttg caaatgtttt 1300

gacgcaatgg aggtagatgc tttaaattcc tcacaccctg tgtctacacc 1350  
 tgtggaaaat cctgctcaga tccgggagat gtttgatgat gtttcttatg 1400  
 ataagggagc ttgtattctg aatatgctaa gggagtatct tagcgtgac 1450  
 gcatttaaaa gtggtattgt acagtatctc cagaagcata gctataaaaa 1500  
 tacaaaaaac gaggacctgt gggatagtat ggcaagtatt tgccctacag 1550  
 atggtgtaaa agggatggat ggcttttgct ctagaagtca acattcatct 1600  
 tcatcctcac attggcatca ggaaggggtg gatgtgaaaa ccatgatgaa 1650  
 cacttgga ca ctgcagaggg gttttcccct aataaccatc acagtgaggg 1700  
 ggaggaatgt acacatgaag caagagcact acatgaaggg ctctgacggc 1750  
 gccccggaca ctgggtacct gtggcatgtt ccattgacat tcatcaccag 1800  
 caaatccaac atgggtccatc gatttttgct aaaaacaaaa acagatgtgc 1850  
 tcatcctccc agaagaggtg gaatggatca aatttaaatgt gggcatgaat 1900  
 ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950  
 ccttttaaaa ggaacacaca cagcagtcag cagtaatgat cgggcaagtc 2000  
 tcattaacaa tgcatttcag ctctgcagca ttgggaagct gtccattgaa 2050  
 aaggccttgg atttatccct gtacttgaaa catgaaactg aaattatgcc 2100  
 cgtgtttcaa ggtttgaatg agctgattcc tatgtataag ttaatggaga 2150  
 aaagagatat gaatgaagtg gaaactcaat tcaaggcctt cctcatcagg 2200  
 ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250  
 ctgagagcaa atgctgcgga gtgaactact actcctcgcc tgtgtgcaca 2300  
 actatcagcc gtgcgtacag agggcagaag gctatttcag aaagtggaag 2350  
 gaatccaatg gaaacttgag cctgcctgtc gacgtgacct tggcagtgtt 2400  
 tgctgtgggg gccagagca cagaaggctg ggattttctt tatagtaa 2450  
 atcagttttc tttgtccagt actgagaaaa gccaaattga atttgccctc 2500  
 tgcagaaccc aaaataagga aaagcttcaa tggctactag atgaaagctt 2550  
 taaggagat aaaataaaaa ctgaggagt tccacaaatt cttacactca 2600  
 ttggcaggaa ccagtagga taccactgg cctggcaatt tctgaggaaa 2650  
 aactggaaca aacttgtaaa aaagtgtgaa cttggctcat cttccatagc 2700  
 ccacatggta atgggtacaa caaatcaatt ctccacaaga acacggcttg 2750  
 aagaggtaaa aggattcttc agctctttga aagaaaatgg ttctcagctc 2800  
 cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttgat 2850  
 ggataagaat tttgataaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

aacgtatgta aaaattcctc ccttgcccg ttcctgttat ctctaatacac 2950  
 caacattttg ttgagtgtat tttcaaacta gagatggctg ttttggctcc 3000  
 aactggagat acttttttcc cttcaactca ttttttgact atccctgtga 3050  
 aaagaatagc tgttagtttt tcatgaatgg gctttttcat gaatgggcta 3100  
 tcgctaccat gtgttttggt catcacaggt gttgccctgc aacgtaaacc 3150  
 caagtgttgg gttccctgcc acagaagaat aaagtacott attctttctca 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 3226

<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
 Met Val Phe Leu Pro Leu Lys Trp Ser Leu Ala Thr Met Ser Phe  
 1 5 10 15  
 Leu Leu Ser Ser Leu Leu Ala Leu Leu Thr Val Ser Thr Pro Ser  
 20 25 30  
 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75  
 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
 110 115 120  
 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
 125 130 135  
 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
 155 160 165  
 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val





	530		535		540
Asn Val His Met	Lys Gln Glu His Tyr	Met Lys Gly Ser Asp	Gly		
	545	550	555		
Ala Pro Asp Thr	Gly Tyr Leu Trp His	Val Pro Leu Thr Phe	Ile		
	560	565	570		
Thr Ser Lys Ser	Asn Met Val His Arg	Phe Leu Leu Lys Thr	Lys		
	575	580	585		
Thr Asp Val Leu	Ile Leu Pro Glu Glu	Val Glu Trp Ile Lys	Phe		
	590	595	600		
Asn Val Gly Met	Asn Gly Tyr Tyr Ile	Val His Tyr Glu Asp	Asp		
	605	610	615		
Gly Trp Asp Ser	Leu Thr Gly Leu Leu	Lys Gly Thr His Thr	Ala		
	620	625	630		
Val Ser Ser Asn	Asp Arg Ala Ser Leu	Ile Asn Asn Ala Phe	Gln		
	635	640	645		
Leu Val Ser Ile	Gly Lys Leu Ser Ile	Glu Lys Ala Leu Asp	Leu		
	650	655	660		
Ser Leu Tyr Leu	Lys His Glu Thr Glu	Ile Met Pro Val Phe	Gln		
	665	670	675		
Gly Leu Asn Glu	Leu Ile Pro Met Tyr	Lys Leu Met Glu Lys	Arg		
	680	685	690		
Asp Met Asn Glu	Val Glu Thr Gln Phe	Lys Ala Phe Leu Ile	Arg		
	695	700	705		
Leu Leu Arg Asp	Leu Ile Asp Lys Gln	Thr Trp Thr Asp Glu	Gly		
	710	715	720		
Ser Val Ser Glu	Gln Met Leu Arg Ser	Glu Leu Leu Leu Leu	Ala		
	725	730	735		
Cys Val His Asn	Tyr Gln Pro Cys Val	Gln Arg Ala Glu Gly	Tyr		
	740	745	750		
Phe Arg Lys Trp	Lys Glu Ser Asn Gly	Asn Leu Ser Leu Pro	Val		
	755	760	765		
Asp Val Thr Leu	Ala Val Phe Ala Val	Gly Ala Gln Ser Thr	Glu		
	770	775	780		
Gly Trp Asp Phe	Leu Tyr Ser Lys Tyr	Gln Phe Ser Leu Ser	Ser		
	785	790	795		
Thr Glu Lys Ser	Gln Ile Glu Phe Ala	Leu Cys Arg Thr Gln	Asn		
	800	805	810		
Lys Glu Lys Leu	Gln Trp Leu Leu Asp	Glu Ser Phe Lys Gly	Asp		
	815	820	825		
Lys Ile Lys Thr	Gln Glu Phe Pro Gln	Ile Leu Thr Leu Ile	Gly		
	830	835	840		
Arg Asn Pro Val	Gly Tyr Pro Leu Ala	Trp Gln Phe Leu Arg	Lys		



tccctcctca agctgcccct gtcccaggag accggcagtg tcctacctgt 1000  
 gtgcagcccc ttggaacctg ttcaagtggc tccccccgaa tgacctgccc 1050  
 caggggcgcc actcattggt atgatgggta cattcatctc tcaggagggtg 1100  
 ggctgtccac caaaatgagc attcagggtc gcgtggccca accttccagc 1150  
 ttcttgttga accacaccag acaaatcggg atcttctctg cgcgtgagaa 1200  
 gcgtgatgtg cagcctcctg cctctcagca tgaggggaggt ggggctgagg 1250  
 gcctggagtc tctcacttgg ggggtggggc tggcactggc cccagcgctg 1300  
 tgggtggggag tggtttgccc ttctgctaa ctctattacc cccacgattc 1350  
 ttcaccgctg ctgaccaccc aactcaacc tccctctgac ctcataacct 1400  
 aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
 cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
 gcctggagca tccggacttg ccctatggga gaggggacgc tggaggagtg 1550  
 gctgcatgta tctgataata cagaccctgt cctttca 1587

<210> 355  
 <211> 437  
 <212> PRT  
 <213> Homo sapiens

<400> 355  
 Met Ser Ala Val Leu Leu Leu Ala Leu Leu Gly Phe Ile Leu Pro  
 1 5 10 15  
 Leu Pro Gly Val Gln Ala Leu Leu Cys Gln Phe Gly Thr Val Gln  
 20 25 30  
 His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys  
 35 40 45  
 Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met  
 50 55 60  
 Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly  
 65 70 75  
 Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg  
 80 85 90  
 Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg  
 95 100 105  
 Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp  
 110 115 120  
 Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val  
 125 130 135  
 Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile  
 140 145 150  
 Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu

155	160	165
Arg Gly Gly Gly Ile Phe Ser Asn Leu	Arg Val Gln Gly Cys Met	
170	175	180
Pro Gln Pro Gly Cys Asn Leu Leu Asn	Gly Thr Gln Glu Ile Gly	
185	190	195
Pro Val Gly Met Thr Glu Asn Cys Asn	Arg Lys Asp Phe Leu Thr	
200	205	210
Cys His Arg Gly Thr Thr Ile Met Thr	His Gly Asn Leu Ala Gln	
215	220	225
Glu Pro Thr Asp Trp Thr Thr Ser Asn	Thr Glu Met Cys Glu Val	
230	235	240
Gly Gln Val Cys Gln Glu Thr Leu Leu	Leu Ile Asp Val Gly Leu	
245	250	255
Thr Ser Thr Leu Val Gly Thr Lys Gly	Cys Ser Thr Val Gly Ala	
260	265	270
Gln Asn Ser Gln Lys Thr Thr Ile His	Ser Ala Pro Pro Gly Val	
275	280	285
Leu Val Ala Ser Tyr Thr His Phe Cys	Ser Ser Asp Leu Cys Asn	
290	295	300
Ser Ala Ser Ser Ser Ser Val Leu Leu	Asn Ser Leu Pro Pro Gln	
305	310	315
Ala Ala Pro Val Pro Gly Asp Arg Gln	Cys Pro Thr Cys Val Gln	
320	325	330
Pro Leu Gly Thr Cys Ser Ser Gly Ser	Pro Arg Met Thr Cys Pro	
335	340	345
Arg Gly Ala Thr His Cys Tyr Asp Gly	Tyr Ile His Leu Ser Gly	
350	355	360
Gly Gly Leu Ser Thr Lys Met Ser Ile	Gln Gly Cys Val Ala Gln	
365	370	375
Pro Ser Ser Phe Leu Leu Asn His Thr	Arg Gln Ile Gly Ile Phe	
380	385	390
Ser Ala Arg Glu Lys Arg Asp Val Gln	Pro Pro Ala Ser Gln His	
395	400	405
Glu Gly Gly Gly Ala Glu Gly Leu Glu	Ser Leu Thr Trp Gly Val	
410	415	420
Gly Leu Ala Leu Ala Pro Ala Leu Trp	Trp Gly Val Val Cys Pro	
425	430	435

Ser Cys

<210> 356  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

```

<400> 356
gcgacgggca ggacgccccg ttgccttagc gcgtgctcag gagttggtgt 50
cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100
tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150
ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200
tgcgggagag aaggagagaca aaggcgcccc cgacggcctt ggaagagtcg 250
gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300
gtgggtcgtc atggaaaaat tgggtccatt ggctctaaag gtgagaaaag 350
agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400
catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450
gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtcgccgg 500
tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550
gctacgcgga cgcccagctg tcctgccagg gccgcggggg cagctgagc 600
atgcccagg acgaggctgc caatggcctg atggccgcat acctggcgca 650
agccggcctg gcccggtgtc tcctcgccat caacgacctg gagaaggagg 700
gcgccttcgt gtactctgac cactcccca tgccgacctt caacaagtgg 750
cgcagcggtg agcccaacaa tgcctacgac gaggaggact gcgtggagat 800
ggtggcctcg ggcggtgga acgacgtggc ctgccacacc accatgtact 850
tcatgtgtga gtttgacaag gagaacatgt gaggcctcagg ctggggctgc 900
ccattggggg ccccatatgt ccctgcaggg ttggcaggga cagagcccag 950
accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000
tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050
aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100
acctgtattg tagcccaaat gtcattatgt aattattacc cagaattgct 1150
cttcataaaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200
tagtgagta gttaagtcca aaaaaaaaaa aaaaaaaaaa 1238

```

```

<210> 357
<211> 271
<212> PRT
<213> Homo sapiens

```

```

<400> 357
Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala
  1             5             10             15
Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp
          20             25             30

```

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp		35	40	45
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg		50	55	60
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln		65	70	75
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser		80	85	90
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro		95	100	105
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys		110	115	120
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu		125	130	135
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu		140	145	150
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp		155	160	165
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro		170	175	180
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln		185	190	195
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys		200	205	210
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe		215	220	225
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu		230	235	240
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala		245	250	255
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn		260	265	270

Met

<210> 358  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 358  
 agtgactgca gccttcctag atcccctcca ctcggtttct ctctttgcag 50  
 gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100  
 gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggtt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaaagaca ggacctttct taccttcagt gagggttcct cggcccccttc 500  
atcccaatca gcttgatcc acaggaaagt cttccctggg aacagaggag 550  
cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atccccgag agcagaatag gtactccact 650  
tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
caggtgcgca cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgcttt gactccttct ccatcttttc tacctgaccc tgggtgtggaa 800  
actgcatagt gaatatcccc aaccccaatg ggcattgact gtagaatacc 850  
ctagagtcc tgtagtgctc tacattaaaa atataatgtc tctctctatt 900  
cctcaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 359  
Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
1 5 10 15  
Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
20 25 30  
Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
35 40 45  
Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
50 55 60  
Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
65 70 75  
Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
80 85 90  
Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
95 100 105  
Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
110 115 120



Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
gggcgtctcc ggctgctcct attgagctgt ctgctcgctg tgcccgtgt 50  
gcctgctgtg cccgcgtgt cgccgctgt accgcgtctg ctggacgcgg 100  
gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcgccc 150  
agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
ggagtggagc catgagctgc gtccctgggtg gtgtcatccc cttggggctg 250  
ctgttccttg tctgcggatc ccaaggctac ctccctgccc acgtcactct 300  
cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
aacaagcttc ggggccaggt gcagcctcag gcctccaaca tggagtacat 450  
ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
tgtgatggct ggctcaggt ctccctctggc aggggaggat cccggctctg 600  
ttctgttttg tttgtttgt ttgagacagg gtctcactct gccactgacg 650  
ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccggg 700  
gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
accatggtgc ccagctagat tttaaataatt ttgtggagat gggggtcttg 800  
ctacgttgcc caggctggtc ttgaactcct aggetcaagc aatcctcctg 850  
cctcagcctc tcaaagtgt aggattatag gcatgagtca ccctgtctgg 900  
ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttcct 950  
gtgcagagcc tgccctggtg ccttcatgtc actcttggtg gctccactgg 1000  
gaacacagct ctcagccttt ccacactgga ggcagagtgg ggaggggccc 1050  
agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100  
accacctga cttctcctta gcccggtgtga gcctcacttt ccacttgag 1150  
agtccttcct cgcgtggtg ccatgactgt gagataagtc gaggctgtga 1200  
agggcccggc acagactgac ctgcctcccc aaccctagg ctttgctaac 1250  
cgggaaagga gctaacggtg acagaagaca gccaaggtca accctcccg 1300  
gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

occaagctcc agtgtggaaa cttccttcct ggctggtttt ccagaactac 1400  
 agaggaatgg accacagtct tccaggggtcc ctctcgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taaacaaacc 1500  
 cacgtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatgggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtgag ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgcccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcaccc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc ccccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
1 5 10 15  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
20 25 30  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
35 40 45  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
50 55 60  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
65 70 75  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttcccctccc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaate tgtatgattc tcaaccatct ttagttggga 400  
aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaaaacc tgtgttttatt ctcaaggatt ttagaaacaa cagccatcat 550  
tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
gctatcaaatt attacttcat tcaatataaa taacaatagt agaagttggt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
gaggatttgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100  
ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150  
gttccttgca gcttttctgc ccccgccgca gtgtaccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttgagca agggctggaa 250  
aatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350  
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgccaacgg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag aactggcag aaatgttgct ccaagaagct gaagaagaga 500

[illegible]

tgcacaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 tacaaagtga aagatacagc tagaaaatac tacaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tcccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta agggtagagga cccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
 1 5 10 15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
 20 25 30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
 35 40 45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
 50 55 60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
 65 70 75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
 80 85 90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
 95 100 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
 110 115 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
 125 130 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
 140 145 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
 155 160 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
 170 175 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
 185 190 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
 200 205 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu
				215					220					225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn
				230					235					240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly
				245					250					255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile
				260					265					270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly
				275					280					285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly
				290					295					300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln
				305					310					315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val
				320					325					330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr
				335					340					345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe
				350					355					360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro
				365					370					375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile
				380					385					390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys			
				395					400					

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgcccgc gtactcacta gctgaggtgg cagtgggtcc accaacaatgg 50  
 agctctcgca gatgtcggag ctcatggggc tgtcgggtgtt gcttgggetg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgcca aaaagcaaata ggattttccac 200  
 ctgacaaatc ttcgggatcc aagaagcaga aacaatatca gcggattcgg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 tctgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgatc gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaacgtgga 450

gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
aaagcacaag ggcctgtca tgcacattgg cattgctaac acagggaagt 650  
ttatcatgac tgccctccagt gacaccactg tcctcatctg gagcctgaag 700  
ggtcaagtgc tgtctacat caacaccaac cagatgaaca acacacacgc 750  
tgctgtatct ccctgtggca gatttgtagc ctctgtgtggc ttcaccccag 800  
atgtgaagggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850  
gtggtgcgag ccttcgaact aaagggccac tccgcggctg tgcactcggt 900  
tgctttctcc aacgactcac ggaggatggc ttctgtctcc aaggatggta 950  
catggaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
tacttgctga agacaggccg ctttgaagag gcggcgggtg ccgcgccgtg 1050  
ccgcctggcc ctctccccc acgcccaggt cttggccttg gccagtggca 1100  
gtagtattca tctctacaat acccggcggg gcgagaagga ggagtgtttt 1150  
gagcgggtcc atggcgagtg tatcgccaac ttgtcctttg acatcaactgg 1200  
ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250  
ctcctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300  
gcctccaacg agagcaccgc ccagaggctg cagcagcagc tgaccagggc 1350  
ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400  
gcccggcgca gaggattgag gaggagggat ctggcctcct catggcactg 1450  
ctgccatctt tcctcccagg tggaagcctt tcagaaggag tctcctgggt 1500  
ttcttactgg tggccctgct tcttcccatt gaaactactc ttgtctactt 1550  
aggtctctct cttcttgctg gctgtgactc ctccctgact agtggccaag 1600  
gtgcttttct tcctcccagg ccagtggtg ggaatctgtc cccacctggc 1650  
actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
tggccttgct gcagcacatc ctcacacca aagaagtttg taaatgttcc 1750  
agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800  
ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
ctaagggatt tccttctggg cctcagttct atttgtaaga tggagaataa 1900  
tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
agtccccagg totggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
gtcatgaaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
 tatatgggttg ggactttctct cttcgggaga tgatatcttg tttaaggaga 2150  
 cctctttttca gttcatcaag ttcatacagat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
 1 5 10 15  
 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240



atttttaggc gcttgccctgg tctcaggata cccacccatcc ttttcctgag 450  
 cacagccctgg atttttattt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcccta cactgactac cctgatctct cttgtctagt acgcacatat 550  
 gcacacaggc agacatacct cccatcatga catgggtccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtgggtgtg aaaggtggcc agcctgggtc 650  
 ttttcctgc tcagggtgcc agagaggtgg taaatggcag aaaggacatt 700  
 cccctcccc tcccaggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggtcct ggctgaccc tcaggccctt 850  
 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatc ttccctcgat 900  
 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc cagggaggcc 1000  
 aatcagcccc ctgaagactc tgggtccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgcctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatgggtg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat taggggtgtt ccttaaacia ctctttcca aggatcagcc 1250  
 ctgagagcag gttgggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400  
 caccaactga aaaaa 1415

<210> 371  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr  
 1 5 10 15  
 Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val  
 20 25 30  
 Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg  
 35 40 45  
 Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys  
 50 55 60  
 His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His  
 65 70 75

[illegible]

```

<400> 372
agcgcccggg cgctcgggcg gtaaaaggcc ggcagaaggg aggcacttga 50
gaaatgtctt tcctccagga cccaagtttc ttcaccatgg ggatgtggtc 100
cattgggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150
acacagacgt gtttctgtcc aagccccaga aagcggccct ggagtacctg 200
gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250
aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300
caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350
agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400
catcaggact gaagtgaagg atttocagcc ttatttcaaa ggagaaatct 450
tcctggatga aaagaaaaag ttctatggtc cacaaggcg gaagatgatg 500
tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550
gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600
gagttttcgt ggtgggatca ggaaagcagg gcattcttct tgagcaccga 650
gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700
taagatgata aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750
aaactgcccc gctcagggat aaccagggac attcacctgt gttcatggga 800
tgtattgttt ccactcgtgt ccctaaggag tgagaaacc atttatactc 850
tactctcagt atggattatt aatgtatttt aatattctgt ttaggccac 900
taaggcaaaa tagcccaaaa acaagactga caaaaatctg aaaaactaat 950
gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000
caggctgggt gcagtggctc acacctgtaa tcccagcact ttggggaggc 1050
aaggtagaca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100
atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggt 1150
ggcaggcacc tgtagtccca gctacccggg aggctgaggc aggagaatca 1200
cttgaacctg ggaggtggag gttgcggtga gctgagatca caccactgta 1250
ttcagcctg ggtgactgag actctaacta a 1281

```

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
   1                  5                  10                  15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
                   20                  25                  30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
                   35                  40                  45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
                   50                  55                  60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
                   65                  70                  75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
                   80                  85                  90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
                   95                  100                  105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
                   110                  115                  120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
                   125                  130                  135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
                   140                  145                  150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
                   155                  160                  165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
                   170                  175                  180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
                   185                  190                  195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
                   200                  205                  210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
                   215                  220                  225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150  
gccacccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250  
ccactttctgc aaatgagaat agcactgttt tgccttcac caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatcgtggt 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcaactgttg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccat ctaggtcccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600  
gggcagtcag atccaccag tgcttaatag caggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
1 5 10 15  
Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120  
Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttgggtatgt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccacac caatcatctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttgggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa ttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
gccaggaata actagagagg aacaatgggg ttattcagag gttttgtttt 50

cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150  
ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250  
tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300  
ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350  
actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
agaaaggcga atacattcac ttcaccctg accttctact tggaaaaaaa 450  
caaaatgaat atggaccacc aggcaaactg tttgtccatg agtgggctca 500  
cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550  
gtgctaagtc aaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700  
ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750  
attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850  
ttagcaattc tgaggatttt aaaaacacca taccatggg gacaccacct 900  
cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgott 950  
agttcttgat aagtctggaa gcatggggg taaggaccgc ctaaatoaga 1000  
tgaatcaagc agcaaaacat ttcctgctgc agactgttga aaatggatcc 1050  
tgggtgggga tgggttcaatt tgatagtact gccactattg taaataagct 1100  
aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
tttcaggtga ttggagagct acattcccaa ctogatgat ccgaagtact 1250  
gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350  
gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500  
aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600  
tgcctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650



ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaagggtg ggcacttggg catacaatct tcaagccaaa gcgaacccag 1750  
 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgect 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaatggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgct gattctttca agaatgatgg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagttcg ggctcatgga ggagcaaaaca ctgccaggct aaaattaagg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aaccgcgcaa gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatccg gaggtgcatt tgtggatatca 2250  
 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatoac 2300  
 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
 caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400  
 ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
 agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500  
 ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatatatt 2550  
 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaatoct gatgacattg 2650  
 atcctacacc tactcctact cctactccta ctctgataa aagtcataat 2700  
 tctggagtta atatttctac gctggtattg tctgtgattg ggtctgttgt 2750  
 aattgttaac tttattttta gtaccacat ttgaacctta acgaagaaaa 2800  
 aaatcttcaa gtagacctag aagagagttt taaaaaaca aacaatgtaa 2850  
 gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900  
 tcataaaaat aattttaaga tgtcggaaaa ggatactttg attaaataaa 2950  
 aacactcatg gatatgtaaa aactgtcaag attaaaattt aatagtttca 3000  
 tttatttggt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
 tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100  
 gatatttcaa attgcatcaa gaaattaaaa tcacttatct gagtagtcaa 3150  
 aatacaagta aaggagagca aataaacaac atttggaata aaaaaaaaaa 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

aaaaaaaaaa aaaaa 3265

<210> 379  
<211> 919  
<212> PRT  
<213> Homo sapiens

<400> 379  
Met Gly Leu Phe Arg Gly Phe Val Phe Leu Leu Val Leu Cys Leu  
1 5 10 15  
Leu His Gln Ser Asn Thr Ser Phe Ile Lys Leu Asn Asn Asn Gly  
20 25 30  
Phe Glu Asp Ile Val Ile Val Ile Asp Pro Ser Val Pro Glu Asp  
35 40 45  
Glu Lys Ile Ile Glu Gln Ile Glu Asp Met Val Thr Thr Ala Ser  
50 55 60  
Thr Tyr Leu Phe Glu Ala Thr Glu Lys Arg Phe Phe Phe Lys Asn  
65 70 75  
Val Ser Ile Leu Ile Pro Glu Asn Trp Lys Glu Asn Pro Gln Tyr  
80 85 90  
Lys Arg Pro Lys His Glu Asn His Lys His Ala Asp Val Ile Val  
95 100 105  
Ala Pro Pro Thr Leu Pro Gly Arg Asp Glu Pro Tyr Thr Lys Gln  
110 115 120  
Phe Thr Glu Cys Gly Glu Lys Gly Glu Tyr Ile His Phe Thr Pro  
125 130 135  
Asp Leu Leu Leu Gly Lys Lys Gln Asn Glu Tyr Gly Pro Pro Gly  
140 145 150  
Lys Leu Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe  
155 160 165  
Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Arg Ala Lys Ser Lys  
170 175 180  
Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser Gly Arg Asn  
185 190 195  
Arg Val Tyr Lys Cys Gln Gly Gly Ser Cys Leu Ser Arg Ala Cys  
200 205 210  
Arg Ile Asp Ser Thr Thr Lys Leu Tyr Gly Lys Asp Cys Gln Phe  
215 220 225  
Phe Pro Asp Lys Val Gln Thr Glu Lys Ala Ser Ile Met Phe Met  
230 235 240  
Gln Ser Ile Asp Ser Val Val Glu Phe Cys Asn Glu Lys Thr His  
245 250 255  
Asn Gln Glu Ala Pro Ser Leu Gln Asn Ile Lys Cys Asn Phe Arg  
260 265 270  
Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr

				275					280					285
Ile	Pro	Met	Val	Thr 290	Pro	Pro	Pro	Pro	Pro 295	Val	Phe	Ser	Leu	Leu 300
Lys	Ile	Ser	Gln	Arg 305	Ile	Val	Cys	Leu	Val 310	Leu	Asp	Lys	Ser	Gly 315
Ser	Met	Gly	Gly	Lys 320	Asp	Arg	Leu	Asn	Arg 325	Met	Asn	Gln	Ala	Ala 330
Lys	His	Phe	Leu	Leu 335	Gln	Thr	Val	Glu	Asn 340	Gly	Ser	Trp	Val	Gly 345
Met	Val	His	Phe	Asp 350	Ser	Thr	Ala	Thr	Ile 355	Val	Asn	Lys	Leu	Ile 360
Gln	Ile	Lys	Ser	Ser 365	Asp	Glu	Arg	Asn	Thr 370	Leu	Met	Ala	Gly	Leu 375
Pro	Thr	Tyr	Pro	Leu 380	Gly	Gly	Thr	Ser	Ile 385	Cys	Ser	Gly	Ile	Lys 390
Tyr	Ala	Phe	Gln	Val 395	Ile	Gly	Glu	Leu	His 400	Ser	Gln	Leu	Asp	Gly 405
Ser	Glu	Val	Leu	Leu 410	Leu	Thr	Asp	Gly	Glu 415	Asp	Asn	Thr	Ala	Ser 420
Ser	Cys	Ile	Asp	Glu 425	Val	Lys	Gln	Ser	Gly 430	Ala	Ile	Val	His	Phe 435
Ile	Ala	Leu	Gly	Arg 440	Ala	Ala	Asp	Glu	Ala 445	Val	Ile	Glu	Met	Ser 450
Lys	Ile	Thr	Gly	Gly 455	Ser	His	Phe	Tyr	Val 460	Ser	Asp	Glu	Ala	Gln 465
Asn	Asn	Gly	Leu	Ile 470	Asp	Ala	Phe	Gly	Ala 475	Leu	Thr	Ser	Gly	Asn 480
Thr	Asp	Leu	Ser	Gln 485	Lys	Ser	Leu	Gln	Leu 490	Glu	Ser	Lys	Gly	Leu 495
Thr	Leu	Asn	Ser	Asn 500	Ala	Trp	Met	Asn	Asp 505	Thr	Val	Ile	Ile	Asp 510
Ser	Thr	Val	Gly	Lys 515	Asp	Thr	Phe	Phe	Leu 520	Ile	Thr	Trp	Asn	Ser 525
Leu	Pro	Pro	Ser	Ile 530	Ser	Leu	Trp	Asp	Pro 535	Ser	Gly	Thr	Ile	Met 540
Glu	Asn	Phe	Thr	Val 545	Asp	Ala	Thr	Ser	Lys 550	Met	Ala	Tyr	Leu	Ser 555
Ile	Pro	Gly	Thr	Ala 560	Lys	Val	Gly	Thr	Trp 565	Ala	Tyr	Asn	Leu	Gln 570
Ala	Lys	Ala	Asn	Pro 575	Glu	Thr	Leu	Thr	Ile 580	Thr	Val	Thr	Ser	Arg 585
Ala	Ala	Asn	Ser	Ser	Val	Pro	Pro	Ile	Thr	Val	Asn	Ala	Lys	Met

590					595					600				
Asn	Lys	Asp	Val	Asn	Ser	Phe	Pro	Ser	Pro	Met	Ile	Val	Tyr	Ala
				605					610					615
Glu	Ile	Leu	Gln	Gly	Tyr	Val	Pro	Val	Leu	Gly	Ala	Asn	Val	Thr
				620					625					630
Ala	Phe	Ile	Glu	Ser	Gln	Asn	Gly	His	Thr	Glu	Val	Leu	Glu	Leu
				635					640					645
Leu	Asp	Asn	Gly	Ala	Gly	Ala	Asp	Ser	Phe	Lys	Asn	Asp	Gly	Val
				650					655					660
Tyr	Ser	Arg	Tyr	Phe	Thr	Ala	Tyr	Thr	Glu	Asn	Gly	Arg	Tyr	Ser
				665					670					675
Leu	Lys	Val	Arg	Ala	His	Gly	Gly	Ala	Asn	Thr	Ala	Arg	Leu	Lys
				680					685					690
Leu	Arg	Pro	Pro	Leu	Asn	Arg	Ala	Ala	Tyr	Ile	Pro	Gly	Trp	Val
				695					700					705
Val	Asn	Gly	Glu	Ile	Glu	Ala	Asn	Pro	Pro	Arg	Pro	Glu	Ile	Asp
				710					715					720
Glu	Asp	Thr	Gln	Thr	Thr	Leu	Glu	Asp	Phe	Ser	Arg	Thr	Ala	Ser
				725					730					735
Gly	Gly	Ala	Phe	Val	Val	Ser	Gln	Val	Pro	Ser	Leu	Pro	Leu	Pro
				740					745					750
Asp	Gln	Tyr	Pro	Pro	Ser	Gln	Ile	Thr	Asp	Leu	Asp	Ala	Thr	Val
				755					760					765
His	Glu	Asp	Lys	Ile	Ile	Leu	Thr	Trp	Thr	Ala	Pro	Gly	Asp	Asn
				770					775					780
Phe	Asp	Val	Gly	Lys	Val	Gln	Arg	Tyr	Ile	Ile	Arg	Ile	Ser	Ala
				785					790					795
Ser	Ile	Leu	Asp	Leu	Arg	Asp	Ser	Phe	Asp	Asp	Ala	Leu	Gln	Val
				800					805					810
Asn	Thr	Thr	Asp	Leu	Ser	Pro	Lys	Glu	Ala	Asn	Ser	Lys	Glu	Ser
				815					820					825
Phe	Ala	Phe	Lys	Pro	Glu	Asn	Ile	Ser	Glu	Glu	Asn	Ala	Thr	His
				830					835					840
Ile	Phe	Ile	Ala	Ile	Lys	Ser	Ile	Asp	Lys	Ser	Asn	Leu	Thr	Ser
				845					850					855
Lys	Val	Ser	Asn	Ile	Ala	Gln	Val	Thr	Leu	Phe	Ile	Pro	Gln	Ala
				860					865					870
Asn	Pro	Asp	Asp	Ile	Asp	Pro	Thr	Pro	Thr	Pro	Thr	Pro	Thr	Pro
				875					880					885
Thr	Pro	Asp	Lys	Ser	His	Asn	Ser	Gly	Val	Asn	Ile	Ser	Thr	Leu
				890					895					900
Val	Leu	Ser	Val	Ile	Gly	Ser	Val	Val	Ile	Val	Asn	Phe	Ile	Leu

Ser Thr Thr Ile

<210> 380

<211> 3877

<212> DNA

<213> Homo sapiens

<400> 380

```

ctccttaggt ggaaaccctg ggagtagagt actgacagca aagaccggga 50
aagaccatac gtccccgggc aggggtgaca acaggtgtca tctttttgat 100
ctcgtgtgtg gctgccttcc tatttcaagg aaagaogcca aggtaatttt 150
gaccagagg agcaatgatg tagccacctc ctaacottcc cttcttgaac 200
ccccagttat gccaggattt actagagagt gtcaactcaa ccagcaagcg 250
gctccttcgg cttaacttgt ggttggagga gagaaccttt gtggggctgc 300
gttctcttag cagtgtcag aagtgacttg cctgaggggtg gaccagaaga 350
aaggaaaggt cccctcttgc tgttggctgc acatcaggaa ggctgtgatg 400
ggaatgaagg tgaaaacttg gagatttcac ttcagtcatt gcttctgcct 450
gcaagatcat cctttaaaag tagagaagct gctctgtgtg gtgggttaact 500
ccaagaggca gaactcgttc tagaaggaaa tggatgcaag cagctccggg 550
ggcccaaac gcatgcttcc tgtggtctag ccagggaag cccttccgtg 600
ggggccccgg ctttgaggga tgccaccggt tctggacgca tggctgattc 650
ctgaatgatg atggttcgcc gggggctgct tgcgtggatt tcccgggtgg 700
tggttttgct ggtgctcctc tgctgtgcta tctctgtcct gtacatgttg 750
gcctgcaccc caaaagggtga cgaggagcag ctggcactgc ccagggccaa 800
cagccccacg gggaaggagg ggtaccaggc cgtccttcag gagtgggagg 850
agcagcaccg caactacgtg agcagcctga agcggcagat cgcacagctc 900
aaggaggagc tgcaggagag gagtgagcag ctcaggaatg ggcagtacca 950
agccagcgat gctgctggcc tgggtctgga caggagcccc ccagagaaaa 1000
cccaggccga cctcctggcc ttctgcact cgcagggtga caaggcagag 1050
gtgaatgctg gcgtcaagct ggccacagag tatgcagcag tgcctttcga 1100
tagctttact ctacagaagg tgtaccagct ggagactggc cttacccgcc 1150
accccgagga gaagcctgtg aggaaggaca agcgggatga gttggtggaa 1200
gccattgaat cagccttgga gaccctgaac aatcctgcag agaacagccc 1250
caatcaccgt ccttacacgg cctctgattt catagaaggg atctaccgaa 1300

```

[illegible]

agttatagtc	tgcttatatta	attaccactt	tgcaagcctt	acaagagagc	2950
acaagttggc	ctacattttt	atatttttta	agaagatact	ttgagatgca	3000
ttatgagaac	tttcagttca	aagcatcaaa	ttgatgccat	atccaaggac	3050
atgccaaatg	ctgattctgt	caggcactga	atgtcaggca	ttgagacata	3100
gggaaggaat	ggtttgtact	aatacagacg	tacagatact	ttctctgaag	3150
agtattttcg	aagaggagca	actgaacact	ggaggaaaag	aaaatgacac	3200
tttctgcttt	acagaaaagg	aaactcattc	agactgggtga	tatcgtgatg	3250
tacctaaaag	tcagaaacca	cattttctcc	tcagaagtag	ggaccgcttt	3300
cttacctggt	taaataaacc	aaagtatacc	gtgtgaacca	aacaatctct	3350
tttcaaaaca	gggtgctcct	cctggcttct	ggcttccata	agaagaaatg	3400
gagaaaaata	tatatatata	tatatatatt	gtgaaagatc	aatccatctg	3450
ccagaatcta	gtgggatgga	agtttttgct	acatgttatc	caccccaggc	3500
caggtggaag	taactgaatt	attttttaaa	ttaagcagtt	ctactcaatc	3550
accaagatgc	ttctgaaaat	tgcattttat	taccatttca	aactattttt	3600
taaaaataaa	tacagttaac	atagagtggg	ttcttcattc	atgtgaaaat	3650
tattagccag	caccagatgc	atgagcta	tatctctttg	agtccttgct	3700
tctgtttgct	cacagtaa	tcattgttta	aaagcttcaa	gaacattcaa	3750
gctgttggtg	tgtaaaaaa	tgcattgtat	tgatttgtac	tggtagttta	3800
tgaaatttaa	ttaaaacaca	ggccatgaat	ggaaggtggg	attgcacagc	3850
taataaaaata	tgatttgtgg	atatgaa	3877		

```
<210> 381
<211> 532
<212> PRT
<213> Homo sapiens
```

```

<400> 381
Met Met Met Val Arg Arg Gly Leu Leu Ala Trp Ile Ser Arg Val
  1                               10                      15

Val Val Leu Leu Val Leu Leu Cys Cys Ala Ile Ser Val Leu Tyr
      20                      25                      30

Met Leu Ala Cys Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu
      35                      40                      45

Pro Arg Ala Asn Ser Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val
      50                      55                      60

Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu
      65                      70                      75

Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser
      80                      85                      90

```

Glu	Gln	Leu	Arg	Asn 95	Gly	Gln	Tyr	Gln	Ala 100	Ser	Asp	Ala	Ala	Gly 105
Leu	Gly	Leu	Asp	Arg 110	Ser	Pro	Pro	Glu	Lys 115	Thr	Gln	Ala	Asp	Leu 120
Leu	Ala	Phe	Leu	His 125	Ser	Gln	Val	Asp	Lys 130	Ala	Glu	Val	Asn	Ala 135
Gly	Val	Lys	Leu	Ala 140	Thr	Glu	Tyr	Ala	Ala 145	Val	Pro	Phe	Asp	Ser 150
Phe	Thr	Leu	Gln	Lys 155	Val	Tyr	Gln	Leu	Glu 160	Thr	Gly	Leu	Thr	Arg 165
His	Pro	Glu	Glu	Lys 170	Pro	Val	Arg	Lys	Asp 175	Lys	Arg	Asp	Glu	Leu 180
Val	Glu	Ala	Ile	Glu 185	Ser	Ala	Leu	Glu	Thr 190	Leu	Asn	Asn	Pro	Ala 195
Glu	Asn	Ser	Pro	Asn 200	His	Arg	Pro	Tyr	Thr 205	Ala	Ser	Asp	Phe	Ile 210
Glu	Gly	Ile	Tyr	Arg 215	Thr	Glu	Arg	Asp	Lys 220	Gly	Thr	Leu	Tyr	Glu 225
Leu	Thr	Phe	Lys	Gly 230	Asp	His	Lys	His	Glu 235	Phe	Lys	Arg	Leu	Ile 240
Leu	Phe	Arg	Pro	Phe 245	Ser	Pro	Ile	Met	Lys 250	Val	Lys	Asn	Glu	Lys 255
Leu	Asn	Met	Ala	Asn 260	Thr	Leu	Ile	Asn	Val 265	Ile	Val	Pro	Leu	Ala 270
Lys	Arg	Val	Asp	Lys 275	Phe	Arg	Gln	Phe	Met 280	Gln	Asn	Phe	Arg	Glu 285
Met	Cys	Ile	Glu	Gln 290	Asp	Gly	Arg	Val	His 295	Leu	Thr	Val	Val	Tyr 300
Phe	Gly	Lys	Glu	Glu 305	Ile	Asn	Glu	Val	Lys 310	Gly	Ile	Leu	Glu	Asn 315
Thr	Ser	Lys	Ala	Ala 320	Asn	Phe	Arg	Asn	Phe 325	Thr	Phe	Ile	Gln	Leu 330
Asn	Gly	Glu	Phe	Ser 335	Arg	Gly	Lys	Gly	Leu 340	Asp	Val	Gly	Ala	Arg 345
Phe	Trp	Lys	Gly	Ser 350	Asn	Val	Leu	Leu	Phe 355	Phe	Cys	Asp	Val	Asp 360
Ile	Tyr	Phe	Thr	Ser 365	Glu	Phe	Leu	Asn	Thr 370	Cys	Arg	Leu	Asn	Thr 375
Gln	Pro	Gly	Lys	Lys 380	Val	Phe	Tyr	Pro	Val 385	Leu	Phe	Ser	Gln	Tyr 390
Asn	Pro	Gly	Ile	Ile 395	Tyr	Gly	His	His	Asp 400	Ala	Val	Pro	Pro	Leu 405



Glu	Gln	Gln	Leu	Val	Ile	Lys	Lys	Glu	Thr	Gly	Phe	Trp	Arg	Asp	
				410					415					420	
Phe	Gly	Phe	Gly	Met	Thr	Cys	Gln	Tyr	Arg	Ser	Asp	Phe	Ile	Asn	
				425					430					435	
Ile	Gly	Gly	Phe	Asp	Leu	Asp	Ile	Lys	Gly	Trp	Gly	Gly	Glu	Asp	
				440					445					450	
Val	His	Leu	Tyr	Arg	Lys	Tyr	Leu	His	Ser	Asn	Leu	Ile	Val	Val	
				455					460					465	
Arg	Thr	Pro	Val	Arg	Gly	Leu	Phe	His	Leu	Trp	His	Glu	Lys	Arg	
				470					475					480	
Cys	Met	Asp	Glu	Leu	Thr	Pro	Glu	Gln	Tyr	Lys	Met	Cys	Met	Gln	
				485					490					495	
Ser	Lys	Ala	Met	Asn	Glu	Ala	Ser	His	Gly	Gln	Leu	Gly	Met	Leu	
				500					505					510	
Val	Phe	Arg	His	Glu	Ile	Glu	Ala	His	Leu	Arg	Lys	Gln	Lys	Gln	
				515					520					525	
Lys	Thr	Ser	Ser	Lys	Lys	Thr									
				530											

<210> 382  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 382  
 ctcggggaaa gggacttgat gttgg 25

<210> 383  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 383  
 gcgaagggtga gcctctatct cgtgcc 26

<210> 384  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 384  
 cagcctacac gtattgagg 19

<210> 385  
 <211> 48  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 385

cagtcagtac aatcctggca taatatacgg ccaccatgat gcagtccc 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

gaaagaatgt tgtggctgct cttttttctg gtgactgcc ttcattgctga 50  
actctgtcaa ccagggtgcag aaaatgcttt taaagtgaga cttagtatca 100  
gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150  
ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200  
agcaacagaa atttcccatg tcctactttg caatgtaacc cagaggggtat 250  
cattctgggt tgtgggttaca gacccttcaa aaaatcacac ccttcctgct 300  
gttgagggtgc aatcagccat aagaatgaac aagaaccgga tcaacaatgc 350  
cttcttttcta aatgacaaaa ctctggaatt tttaaaaatc ccttccacac 400  
ttgcaccacc catggaccca tctgtgccca tctggattat tatatttgggt 450  
gtgatatttt gcatcatcat agttgcaatt gcactactga ttttatcagg 500  
gatctggcaa cgtagaagaa agaacaaaga accatctgaa gtggatgacg 550  
ctgaagataa gtgtgaaaac atgatcaciaa ttgaaaatgg catcccctct 600  
gatcccctgg acatgaaggg gggcatatta atgatgcctt catgacagag 650  
gatgagaggc tcacccctct ctgaagggtt gttgttctgc ttcctcaaga 700  
aattaaacat ttgtttctgt gtgactgctg agcatcctga aataccaaga 750  
gcagatcata tattttgttt caccattctt cttttgtaat aaattttgaa 800  
tgtgcttgaa agtgaaaagc aatcaattat accaccaac accactgaaa 850  
tcataagcta ttcacgactc aaaatattct aaaatatttt tctgacagta 900  
tagtgtataa atgtgggtcat gtggattttg tagttattga tttaagcatt 950  
tttagaaata agatcaggca tatgtatata ttttcacact tcaaagacct 1000  
aaggaaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050  
tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100  
actaagtaaa caaagttag aagtaattat tgtaaatgga tggataaaaa 1150  
tggaattact catatacagg gtggaatttt atcctgttat cacaccaaca 1200  
gttgattata tattttctga atatcagccc ctaataggac aattctattt 1250

gttgaccatt tctacaatctt gtaaaagtcc aatctgtgct aacttaataa 1300

agtaataatc atctctttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387

<211> 212

<212> PRT

<213> Homo sapiens

<400> 387

Met	Leu	Trp	Leu	Leu	Phe	Phe	Leu	Val	Thr	Ala	Ile	His	Ala	Glu
1				5					10					15

Leu	Cys	Gln	Pro	Gly	Ala	Glu	Asn	Ala	Phe	Lys	Val	Arg	Leu	Ser
				20					25					30

Ile	Arg	Thr	Ala	Leu	Gly	Asp	Lys	Ala	Tyr	Ala	Trp	Asp	Thr	Asn
				35					40					45

Glu	Glu	Tyr	Leu	Phe	Lys	Ala	Met	Val	Ala	Phe	Ser	Met	Arg	Lys
				50					55					60

Val	Pro	Asn	Arg	Glu	Ala	Thr	Glu	Ile	Ser	His	Val	Leu	Leu	Cys
				65					70					75

Asn	Val	Thr	Gln	Arg	Val	Ser	Phe	Trp	Phe	Val	Val	Thr	Asp	Pro
				80					85					90

Ser	Lys	Asn	His	Thr	Leu	Pro	Ala	Val	Glu	Val	Gln	Ser	Ala	Ile
				95					100					105

Arg	Met	Asn	Lys	Asn	Arg	Ile	Asn	Asn	Ala	Phe	Phe	Leu	Asn	Asp
				110					115					120

Gln	Thr	Leu	Glu	Phe	Leu	Lys	Ile	Pro	Ser	Thr	Leu	Ala	Pro	Pro
				125					130					135

Met	Asp	Pro	Ser	Val	Pro	Ile	Trp	Ile	Ile	Ile	Phe	Gly	Val	Ile
				140					145					150

Phe	Cys	Ile	Ile	Ile	Val	Ala	Ile	Ala	Leu	Leu	Ile	Leu	Ser	Gly
				155					160					165

Ile	Trp	Gln	Arg	Arg	Arg	Lys	Asn	Lys	Glu	Pro	Ser	Glu	Val	Asp
				170					175					180

Asp	Ala	Glu	Asp	Lys	Cys	Glu	Asn	Met	Ile	Thr	Ile	Glu	Asn	Gly
				185					190					195

Ile	Pro	Ser	Asp	Pro	Leu	Asp	Met	Lys	Gly	Gly	Ile	Leu	Met	Met
				200					205					210

Pro Ser

<210> 388

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 388

aactcaaact cctctctctg ggaaaacgcg gtgcttgctc ctcccgagat 50



Ile	Gln	Leu	Thr	Ala	Leu	Trp	Pro	Ile	Ala	Ala	Val	Glu	Ile	Tyr	
				20					25					30	
Thr	Ser	Arg	Val	Leu	Glu	Ala	Val	Asn	Gly	Thr	Asp	Ala	Arg	Leu	
				35					40					45	
Lys	Cys	Thr	Phe	Ser	Ser	Phe	Ala	Pro	Val	Gly	Asp	Ala	Leu	Thr	
				50					55					60	
Val	Thr	Trp	Asn	Phe	Arg	Pro	Leu	Asp	Gly	Gly	Pro	Glu	Gln	Phe	
				65					70					75	
Val	Phe	Tyr	Tyr	His	Ile	Asp	Pro	Phe	Gln	Pro	Met	Ser	Gly	Arg	
				80					85					90	
Phe	Lys	Asp	Arg	Val	Ser	Trp	Asp	Gly	Asn	Pro	Glu	Arg	Tyr	Asp	
				95					100					105	
Ala	Ser	Ile	Leu	Leu	Trp	Lys	Leu	Gln	Phe	Asp	Asp	Asn	Gly	Thr	
				110					115					120	
Tyr	Thr	Cys	Gln	Val	Lys	Asn	Pro	Pro	Asp	Val	Asp	Gly	Val	Ile	
				125					130					135	
Gly	Glu	Ile	Arg	Leu	Ser	Val	Val	His	Thr	Val	Arg	Phe	Ser	Glu	
				140					145					150	
Ile	His	Phe	Leu	Ala	Leu	Ala	Ile	Gly	Ser	Ala	Cys	Ala	Leu	Met	
				155					160					165	
Ile	Ile	Ile	Val	Ile	Val	Val	Val	Leu	Phe	Gln	His	Tyr	Arg	Lys	
				170					175					180	
Lys	Arg	Trp	Ala	Glu	Arg	Ala	His	Lys	Val	Val	Glu	Ile	Lys	Ser	
				185					190					195	
Lys	Glu	Glu	Glu	Arg	Leu	Asn	Gln	Glu	Lys	Lys	Val	Ser	Val	Tyr	
				200					205					210	
Leu	Glu	Asp	Thr	Asp											
				215											

<210> 390  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 390  
 ccgaggccat ctagaggcca gagc 24

<210> 391  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 391  
 acaggcagag ccaatggcca gagc 24

<210> 392  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 392  
 gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
 agcagtcctg gtactcttgg gagtttccat ctttctgggc tctgcccaga 100  
 atccgacaac agctgctcca gctgacacgt atccagctac tggctcctgct 150  
 gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccactgogac 200  
 cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
 aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
 gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
 tattcatgct tcctgtgatt tcatccaact acttaccttg cctacgatat 400  
 cccctttatc tctaatacgt ttatttttctt tcaaataaaa aataactatg 450  
 agcaacataa aaaaaaaaaa a 471

<210> 394  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 394  
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
   1                  5                  10                  15  
 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
                   20                  25                  30  
 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
                   35                  40                  45  
 Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
                   50                  55                  60  
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
                   65                  70                  75  
 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
                   80                  85                  90

<210> 395  
 <211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatcttttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggttc 50  
aaccttggac ccctaggggt ctggatttgc tggttaacaa gataaoc tga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgcoctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttggttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtctt 350  
ggccagtcca ggggtggggg cggcaaaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgcccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgcgggc catggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcatgtgat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cgggtggctca cgctgtaat 650

cccagcaatt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tgggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcactgg tagtcccagt tactcggggag 800  
 gctgaggcag gaaaatcgct tgaacccagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
 1 5 10 15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
 20 25 30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
 35 40 45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
 50 55 60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
 65 70 75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
 80 85 90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
 95 100 105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
 110 115 120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcatgccag tgccctgctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccatggggcg cccagaactg gcacagcatg 100  
 aggagctgac cctgctcttc catggggacc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggccggga tgcagcccag gaacttcggg caagcctggt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gagggccacag ctgaggtgct 350  
 gggggaggtg gcccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggcccctgtg cagggaggag ctgcctgttc actgggatca 700  
 gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggcagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc tttcatgcct acacaccct cattaaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
 ggcaacatgg ctacagcaggc ttgccccaga gccatggcaa agaattggact 50  
 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcacaa gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 caggtgtcaa tgacttttgg ctgggcatca atgacatggc cacggaaggc 450  
 aagtttggtg acgtcaacgg aatcgctatc tccttcctca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcctttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtccca 1100  
 tgctggcaat aataccttgt cagcccatta cccttatttt gaattgctcc 1150  
 atctcctggt gggacttgta tcttgctgc catatcagaa cacaacccc 1200  
 tgaagagggt ctgatttgat tttttttttt tcttcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatttg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaagggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatcctt 1550  
 tgggaagctga aaactgaatt taaagaatgc tatcttggaa aattgcatac 1600  
 gtctgtgcaa ttttttattc tgcctagtgc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggaggggaaa tgggctttttt agaagcaaac aattttaaat atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155	160	165
Ala Gln Pro Asn Gly Gly Lys Arg Glu Asn Cys Val Leu Phe Ser			
	170	175	180
Gln Ser Ala Gln Gly Lys Trp Ser Asp Glu Ala Cys Arg Ser Ser			
	185	190	195
Lys Arg Tyr Ile Cys Glu Phe Thr Ile Pro Lys			
	200	205	

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctggttatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaaccccct cggcaccctc aaccgctga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgagggctga 450  
 aaaccccgcc gcggggagga cgttccatcc ctttcccccg gccctctca 500  
 ataaacgtgg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
 1 5 10 15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
 20 25 30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
 35 40 45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
 50 55 60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
 65 70 75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
 80 85 90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
 95 100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aaggaggca ctccttggcc tccgcagccg atcacatgaa ggtggtgcca 100  
 agtctcctgc tctccgtcct cctggcacag gtgtggctgg taccggcctt 150  
 ggccccagt cctcagtcgc cagagacccc agccctcag aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccggtga ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaggaga cttcaaactt cggattcagc ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg ttttctctcc atttgcatg 400  
 tccttgcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggtcc acttgcaggc cctgaagccc accaagccc 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaattttatc caagaggtat tttgatacag 650  
 agtgcgtagc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttggtca 800  
 aagggaaatg gttgacccca tttgaccctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccatga tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtggtcct catggagaaa 1000  
 atgggtgacc acctcgccct tgaagactac ctgaccacag acttggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgattg 1250  
 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc ttttgttctt aactagttaa ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
 ccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatttt 1650  
 ttctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950  
 tggaattttt catttaatgt ttttggaaca tggttgacca tggttactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

[illegible]

Met 1	Lys	Val	Val	Pro 5	Ser	Leu	Leu	Leu	Ser 10	Val	Leu	Leu	Ala	Gln 15
Val	Trp	Leu	Val	Pro 20	Gly	Leu	Ala	Pro	Ser 25	Pro	Gln	Ser	Pro	Glu 30
Thr	Pro	Ala	Pro	Gln 35	Asn	Gln	Thr	Ser	Arg 40	Val	Val	Gln	Ala	Pro 45
Arg	Glu	Glu	Glu	Glu 50	Asp	Glu	Gln	Glu	Ala 55	Ser	Glu	Glu	Lys	Ala 60
Gly	Glu	Glu	Glu	Lys 65	Ala	Trp	Leu	Met	Ala 70	Ser	Arg	Gln	Gln	Leu 75
Ala	Lys	Glu	Thr	Ser 80	Asn	Phe	Gly	Phe	Ser 85	Leu	Leu	Arg	Lys	Ile 90
Ser	Met	Arg	His	Asp 95	Gly	Asn	Met	Val	Phe 100	Ser	Pro	Phe	Gly	Met 105
Ser	Leu	Ala	Met	Thr 110	Gly	Leu	Met	Leu	Gly 115	Ala	Thr	Gly	Pro	Thr 120
Glu	Thr	Gln	Ile	Lys 125	Arg	Gly	Leu	His	Leu 130	Gln	Ala	Leu	Lys	Pro 135
Thr	Lys	Pro	Gly	Leu 140	Leu	Pro	Ser	Leu	Phe 145	Lys	Gly	Leu	Arg	Glu 150
Thr	Leu	Ser	Arg	Asn 155	Leu	Glu	Leu	Gly	Leu 160	Ser	Gln	Gly	Ser	Phe 165
Ala	Phe	Ile	His	Lys 170	Asp	Phe	Asp	Val	Lys 175	Glu	Thr	Phe	Phe	Asn 180
Leu	Ser	Lys	Arg	Tyr 185	Phe	Asp	Thr	Glu	Cys 190	Val	Pro	Met	Asn	Phe 195
Arg	Asn	Ala	Ser	Gln 200	Ala	Lys	Arg	Leu	Met 205	Asn	His	Tyr	Ile	Asn 210
Lys	Glu	Thr	Arg	Gly 215	Lys	Ile	Pro	Lys	Leu 220	Phe	Asp	Glu	Ile	Asn 225
Pro	Glu	Thr	Lys	Leu 230	Ile	Leu	Val	Asp	Tyr 235	Ile	Leu	Phe	Lys	Gly 240
Lys	Trp	Leu	Thr	Pro 245	Phe	Asp	Pro	Val	Phe 250	Thr	Glu	Val	Asp	Thr 255
Phe	His	Leu	Asp	Lys 260	Tyr	Lys	Thr	Ile	Lys 265	Val	Pro	Met	Met	Tyr 270
Gly	Ala	Gly	Lys	Phe 275	Ala	Ser	Thr	Phe	Asp 280	Lys	Asn	Phe	Arg	Cys 285

His Val Leu Lys	Leu Pro Tyr Gln Gly	Asn Ala Thr Met Leu Val	290	295	300
Val Leu Met Glu	Lys Met Gly Asp His	Leu Ala Leu Glu Asp Tyr	305	310	315
Leu Thr Thr Asp	Leu Val Glu Thr Trp	Leu Arg Asn Met Lys Thr	320	325	330
Arg Asn Met Glu	Val Phe Phe Pro Lys	Phe Lys Leu Asp Gln Lys	335	340	345
Tyr Glu Met His	Glu Leu Leu Arg Gln	Met Gly Ile Arg Arg Ile	350	355	360
Phe Ser Pro Phe	Ala Asp Leu Ser Glu	Leu Ser Ala Thr Gly Arg	365	370	375
Asn Leu Gln Val	Ser Arg Val Leu Arg	Arg Thr Val Ile Glu Val	380	385	390
Asp Glu Arg Gly	Thr Glu Ala Val Ala	Gly Ile Leu Ser Glu Ile	395	400	405
Thr Ala Tyr Ser	Met Pro Pro Val Ile	Lys Val Asp Arg Pro Phe	410	415	420
His Phe Met Ile	Tyr Glu Glu Thr Ser	Gly Met Leu Leu Phe Leu	425	430	435
Gly Arg Val Val	Asn Pro Thr Leu Leu		440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccactgcagc tccctgagca ctctctacag agacgcggac 50  
 cccagacatg aggaggctcc tcttggtcac cagcctggtg gttgtgctgc 100  
 tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgccc 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 aggggccccca tccttccagg caccaaggcc tggatggaga ccgaggacac 350  
 cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600



**A** **B** **C** **D** **E** **F** **G** **H** **I** **J** **K** **L** **M** **N** **O** **P** **Q** **R** **S** **T** **U** **V** **W** **X** **Y** **Z**

[illegible]

<400> 413					
agaaagctgc	actctgttga	gctccagggc	gcagtggagg	gagggagtga	50
aggagctctc	tgtacccaag	gaaagtgcag	ctgagactca	gacaagatta	100
caatgaacca	actcagcttc	ctgctgtttc	tcatagcgac	caccagagga	150
tggagtacag	atgaggctaa	tacttacttc	aaggaatgga	cctgttcttc	200
gtctccatct	ctgcccagaa	gctgcaagga	aatcaaagac	gaatgtccta	250
gtgcatttga	tggcctgtat	tttctccgca	ctgagaatgg	tgttatctac	300
cagaccttct	gtgacatgac	ctctgggggt	ggcggctgga	ccctgggtggc	350
cagcgtgcat	gagaatgaca	tgcgtgggaa	gtgcacgggtg	ggcgatcgct	400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650  
 gtttggcatc taccagaaat atccagtga atattggagaa ggaaagtgtt 700  
 ggactgacaa cggcccgggtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaacag catcttatta ctcaccctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgctgg aatgaggggtc accggatgta aactgagca tcaactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcagc gtggagattt 950  
 ttctggtttt gattggagtg gatattggaac tcatgttggg tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatog ttgagagttt 1050  
 tgtgggaggg aaccagacc tctcctccca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 414  
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg  
 1 5 10 15  
 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr  
 20 25 30  
 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys  
 35 40 45  
 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr  
 50 55 60  
 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly  
 65 70 75  
 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met  
 80 85 90  
 Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly  
 95 100 105  
 Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr  
 110 115 120  
 Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

09069293 "12001"

	125		130		135
Asn Pro Gly Tyr	Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile	Trp		
	140	145	150		
His Val Pro Asn	Lys Ser Pro Met Gln	His Trp Arg Asn Ser	Ser		
	155	160	165		
Leu Leu Arg Tyr	Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu	Gly		
	170	175	180		
His Asn Leu Phe	Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr	Gly		
	185	190	195		
Glu Gly Lys Cys	Trp Thr Asp Asn Gly	Pro Val Ile Pro Val	Val		
	200	205	210		
Tyr Asp Phe Gly	Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser	Pro		
	215	220	225		
Tyr Gly Gln Arg	Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg	Val		
	230	235	240		
Phe Asn Asn Glu	Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met	Arg		
	245	250	255		
Val Thr Gly Cys	Asn Thr Glu His His	Cys Ile Gly Gly Gly	Gly		
	260	265	270		
Tyr Phe Pro Glu	Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser	Gly		
	275	280	285		
Phe Asp Trp Ser	Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser	Ser		
	290	295	300		
Arg Glu Ile Thr	Glu Ala Ala Val Leu	Leu Phe Tyr Arg			
	305	310			

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag ccacagagc tgccgcattc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcctggggac gctgcaggtg 150  
 ctagcgctgc tgggggcccgc ccatgaaagc gcagccatgg cggcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttgggtgga ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
tgatataatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgcttttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

	125		130		135
Thr His Asn Ser	Ser Val Thr Ser Ala	Ala Ser Ser Val Thr	Ile		
	140		145		150
Thr Thr Thr Met	His Ser Glu Ala Lys	Lys Gly Ser Lys Phe	Asp		
	155		160		165
Thr Gly Ser Phe	Val Gly Gly Ile Val	Leu Thr Leu Gly Val	Leu		
	170		175		180
Ser Ile Leu Tyr	Ile Gly Cys Lys Met	Tyr Tyr Ser Arg Arg	Gly		
	185		190		195
Ile Arg Tyr Arg	Thr Ile Asp Glu His	Asp Ala Ile Ile			
	200		205		

<210> 417  
 <211> 1728  
 <212> DNA  
 <213> Homo sapiens

<400> 417  
 cagccgggtc ccaagcctgt gcctgagcct gagcctgagc ctgagcccga 50  
 gccgggagcc ggtcgcgggg gctccgggct gtgggaccgc tgggccccca 100  
 gcgatggcga ccctgtgggg aggccttctt cggcttggtt ccttgctcag 150  
 cctgtcgtgc ctggcgcttt ccgtgctgct gctggcgcag ctgtcagacg 200  
 ccgccaagaa tttcgaggat gtcagatgta aatgtatctg ccctccctat 250  
 aaagaaaatt ctgggcatat ttataataag aacatatctc agaaagattg 300  
 tgattgcctt catgtttgtg agcccatgcc tgtgcggggg cctgatgtag 350  
 aagcatactg tctacgctgt gaatgcaa atgaagaaag aagctctgtc 400  
 acaatcaagg ttaccattat aatttatctc tccatttttg gccttctact 450  
 tctgtacatg gtatatctta ctctggttga gccatactg aagaggcgcc 500  
 tctttggaca tgcacagttg atacagagtg atgatgatat tggggatcac 550  
 cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagtcgagc 600  
 caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650  
 tccaagagca gcgaaagtct gtotttgacc ggcattgttg cctcagctaa 700  
 ttgggaattg aattcaagg gactagaaag aaacaggcag acaactggaa 750  
 agaactgact gggttttgct gggtttcatt ttaatacctt gttgatttca 800  
 ccaactgttg ctggaagatt caaaactgga agcaaaaact tgcttgattt 850  
 ttttttcttg ttaacgtaat aatagagaca tttttaaaag cacacagctc 900  
 aaagtcagcc aataagtctt ttcctatttg tgacttttac taataaaaat 950  
 aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcaggggt 1050  
 tttgttggtg ttgttttttg tttgtttggt ttggtgggag aggggagggg 1100  
 tgcctgggaa gtggttaaca actttttttca agtcaacttta ctaaacaac 1150  
 ttttgtaaag agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctgggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggctggtgt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg ggttgtgggt gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His	Ala	Gln	Leu	Ile	Gln	Ser	Asp	Asp	Asp	Ile	Gly	Asp	His	Gln
				140					145					150
Pro	Phe	Ala	Asn	Ala	His	Asp	Val	Leu	Ala	Arg	Ser	Arg	Ser	Arg
				155					160					165
Ala	Asn	Val	Leu	Asn	Lys	Val	Glu	Tyr	Ala	Gln	Gln	Arg	Trp	Lys
				170					175					180
Leu	Gln	Val	Gln	Glu	Gln	Arg	Lys	Ser	Val	Phe	Asp	Arg	His	Val
				185					190					195

Val Leu Ser

<210> 419  
 <211> 681  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
 gcacctgcga ccaccgtgag cagtcattggc gtactccaca gtgcagagag 50  
 tcgctctggc ttctgggctt gtcctggctc tgcgctgct gctgcccaag 100  
 gccttctctgt cccgcgggaa gcggcaggag ccgccgccga cacctgaagg 150  
 aaaattgggc cgatttccac ctatgatgca tcatcaccag gcaccctcag 200  
 atggccagac tcctggggct cgtttccaga ggtctcaact tgccgaggca 250  
 tttgcaaagg ccaaaggatc aggtggaggt gctggaggag gaggtagtgg 300  
 aagaggtctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
 tatatatact gtacattcta tttaaggtaa gtagaatcat cctaatacata 400  
 ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
 aacttcttat agttcataaa attatttcaa atocatcatc tctttaaatc 500  
 ctgcctcctc ttcatgaggt acttaggata gccattatit cagtttcaca 550  
 taagaatgtt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600  
 acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
 gactgataca attcaatgca ctcccctgcc a 681

<210> 420  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 420  
 Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
 1 5 10 15  
 Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
 20 25 30  
 Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
 35 40 45





tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtgaaa 1150  
aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
agactccgcg tctcccagct gtcctcctgt ctcatgtttt ggtcaataca 1400  
ctgaagatgg agaatttgga gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
acactggccc tgggaaccag gctgagctga gtggcctcaa accccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
Met Phe Cys Pro Leu Lys Leu Ile Leu Leu Pro Val Leu Leu Asp  
1 5 10 15  
Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

[illegible]

```
<210> 423
<211> 963
<212> DNA
<213> Homo sapiens
```

acatcacctt aaatattaaa actcggaac cagctctcgt ctccgttggc 250  
cctgcacccct cctcctggtg gcgtgtgatg gctttgattc tgctgaccc 300  
gtgcgtgggg atggttgtcg ggctggtggc tctggggatt tggctgtca 350  
tgcagcgcaa ttacctacaa gatgagaatg aaaatcgcac aggaactctg 400  
caacaattag caaagcgctt ctgtcaatat gtggtaaaac aatcagaact 450  
aaagggcact ttcaaaggct ataaatgcag cccctgtgac acaaactgga 500  
gatattatgg agatagctgc tatgggttct tcaggcacaa cttacatgg 550  
gaagagagta agcagtactg cactgacatg aatgctactc tcctgaagat 600  
tgacaaccgg aacattgtgg agtacatcaa agccaggact catttaattc 650  
gttgggtcgg attatctcgc cagaagtcga atgaggtctg gaagtgggag 700  
gatggctcgg ttatctcaga aaatatgttt gagtttttgg aagatggaaa 750  
aggaaatatg aattgtgctt attttcataa tgggaaaatg caccctacct 800  
tctgtgagaa caaacattat ttaatgtgtg agaggaaggc tggcatgacc 850  
aaggtggacc aactacctta atgcaaagag gtggacagga taacacagat 900  
aagggtctta ttgtacaata aaagatatgt atgaatgcat cagtagctga 950  
aaaaaaaaaaa aaa 963

<210> 424  
<211> 229  
<212> PRT  
<213> Homo sapiens

<400> 424  
Met Gln Asp Glu Asp Gly Tyr Ile Thr Leu Asn Ile Lys Thr Arg  
1 5 10 15  
Lys Pro Ala Leu Val Ser Val Gly Pro Ala Ser Ser Ser Trp Trp  
20 25 30  
Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val  
35 40 45  
Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn  
50 55 60  
Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln  
65 70 75  
Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu  
80 85 90  
Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn  
95 100 105  
Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn  
110 115 120  
Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala



```

<400> 428
ccaccaatgg cagccccacc t 21

<210> 429
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 429
gactgccctc cctgcca 17

<210> 430
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 430
caaaaagcct ggaagtcttc aaag 24

<210> 431
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 431
cagctggact gcaggtgcta 20

<210> 432
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 432
cagtgagcac agcaagtgtc ct 22

<210> 433
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 433
ggccacctcc ttgagtcttc agttccct 28

<210> 434
<211> 24
<212> DNA
<213> Artificial Sequence

```

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 434  
 caactactgg ctaaagctgg tgaa 24  
  
 <210> 435  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 435  
 cctttctgta taggtgatac ccaatga 27  
  
 <210> 436  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 436  
 tggccatccc taccagaggc aaaa 24  
  
 <210> 437  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 437  
 ctgaagacga cgcgattac ta 22  
  
 <210> 438  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 438  
 ggcagaaatg ggaggcaga 19  
  
 <210> 439  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 439  
 tgctctgttg gctacggctt tagtccctag 30  
  
 <210> 440  
 <211> 22

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 440  
 agcagcagcc atgtagaatg aa 22  
  
 <210> 441  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 442  
 tccagagagc caagcacggc aga 23  
  
 <210> 443  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 443  
 tctagccagc ttggctccaa ta 22  
  
 <210> 444  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 444  
 cctggctcta gcaccaactc ata 23  
  
 <210> 445  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 445  
 tcagtggccc taaggagatg ggcct 25

<210> 446  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 446  
 caggatacag tgggaatctt gaga 24  
  
 <210> 447  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 447  
 cctgaagggc ttggagctta gt 22  
  
 <210> 448  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 448  
 tctttggcca tttcccatgg ctca 24  
  
 <210> 449  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 449  
 cccatggcga ggaggaat 18  
  
 <210> 450  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 450  
 tgcgtacgtg tgccttcag 19  
  
 <210> 451  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe



<400> 451  
 cagcacccca ggcagtctgt gtgt 24  
  
 <210> 452  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 452  
 aacgtgctac acgaccagtg tact 24  
  
 <210> 453  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 453  
 cacagcatat tcagatgact aaatcca 27  
  
 <210> 454  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 454  
 ttgttttagtt ctccaccgtg tctccacaga a 31  
  
 <210> 455  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 455  
 tgtcagaatg caacctggct t 21  
  
 <210> 456  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 456  
 tgatgtgcct ggctcagaac 20  
  
 <210> 457  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence



<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 463  
 aagttgctaa atatatacat tatctgcgcc aagtcca 37  
  
 <210> 464  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcccc caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 465  
 gtccttggtgta tgggtctgaa ttatat 26  
  
 <210> 466  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 466  
 actctctgca cccacagtc accactatct c 31  
  
 <210> 467  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 467  
 ctgaggaacc agccatgtct ct 22  
  
 <210> 468  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
 gaccagatgc aggtacagga tga 23

<210> 469  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 469  
 ctgccccttc agtgatgccca acctt 25  
  
 <210> 470  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 470  
 ggggtggaggc tcactgagta ga 22  
  
 <210> 471  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 471  
 caatacaggc aatgaaactc tgcttctt 28  
  
 <210> 472  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 472  
 tcctcttaag cataggccat tttctcagtt tagaca 36  
  
 <210> 473  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 473  
 ggtggtcttg cttggtctca c 21  
  
 <210> 474  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe

<400> 474  
ccgtcgttca gcaacatgac 20

<210> 475  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 475  
accgcctacc gctgtgcccc 20

<210> 476  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 476  
cagtaaaacc acaggctgga ttt 23

<210> 477  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 477  
cctgagagca agaaggttga gaat 24

<210> 478  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 478  
tagacaggga ccatggcccg ca 22

<210> 479  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 479  
tgggctgtag aagagttggt g 21

<210> 480  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 480  
 tccacacttg gccagtttat 20  
  
 <210> 481  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 481  
 cccaacttct cccttttgga ccct 24  
  
 <210> 482  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 482  
 gtcccttcac tgtttagagc atga 24  
  
 <210> 483  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 483  
 actctcccc tcaacagcct cctgag 26  
  
 <210> 484  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 484  
 gtggtcaggg cagatccttt 20  
  
 <210> 485  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 485  
 acagatccag gagagactcc aca 23  
  
 <210> 486  
 <211> 21

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 486  
 agcggcgctc ccagcctgaa t 21  
  
 <210> 487  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 487  
 catgattggc cctcagttcc atc 23  
  
 <210> 488  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 488  
 atagagggct cccagaagtg 20  
  
 <210> 489  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 489  
 cagggccttc agggccttca c 21  
  
 <210> 490  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 490  
 gctcagccaa acactgtca 19  
  
 <210> 491  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 491  
 ggggccctga cagtgtt 17

<210> 492  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
ctgagccgag actggagcat ctacac 26

<210> 493  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
gtgggcagcg tcttgtc 17

<210> 494  
<211> 1231  
<212> DNA  
<213> Homo Sapien

<400> 494  
cccacgcgtc cgcgcagtcg cgcagttctg cctccgcctg ccagtctcgc 50  
ccgcgatccc ggcccggggc tgtggcgctg actccgaccc aggcagccag 100  
cagcccgcgc gggagccgga ccgccgccgg aggagctcgg acggcatgct 150  
gagccccctc ctttgtgtgaa gcccgagtgc ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
tggtggtggg cgtcgtggcc atggcgccgg ctatcgccag ctgctcatc 350  
cgtcagaaga ggcaagcccg cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc ccagcaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
atgtcttttc ccgggtcaaa ctcttcggct ccaagaagag gcgcagaaga 500  
agaccagagc ctcagcttaa gggatatagt accaagctat acagccgaca 550  
aggctaccac ttgcagctgc aggcggatgg aaccattgat ggcaccaaag 600  
atgaggacag cacttacact ctgtttaacc tcatccctgt gggctctgca 650  
gtggtggcta tccaaggagt tcaaaccaag ctgtacttgg caatgaacag 700  
tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
aagaatcagt gtttgaaaat tattatgtga catattcatc aatgatatac 800  
cgtcagcagc agtcaggccg aggggtggtat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900



ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgtgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccaggtgctg ttgaattctt ctagcagtcc ttcacccaaa agttcaaatt 1150  
tgtcagtgac atttaccaaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc cataactaaag c 1231

<210> 495  
<211> 245  
<212> PRT  
<213> Homo Sapien

<400> 495  
Met Ala Ala Ala Ile Ala Ser Ser Leu Ile Arg Gln Lys Arg Gln  
1 5 10 15  
Ala Arg Glu Arg Glu Lys Ser Asn Ala Cys Lys Cys Val Ser Ser  
20 25 30  
Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val  
35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
110 115 120  
Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Glu  
125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
200 205 210  
Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

	215		220		225
Ser Arg Ser Val	Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser				
	230		235		240
His Asn Glu Ser Thr					
	245				

<210> 496  
 <211> 1471  
 <212> DNA  
 <213> Homo Sapien

<400> 496  
 ccaggatgga gctggggcct gtatagccat attattgttc tatgctacta 50  
 gacatggggg ggacttggtg aaaaaggtat tatccagcca gagggctctgg 100  
 gagccctgtc ttactgaacc tgggcaacct ggatattctg agacatattt 150  
 tggggggatt tcagtgaaaa aagtggggga tcccctccat ttagagtgtg 200  
 gcaaaggaaa aaacaccaag gttgggttcc ttctgacat tggcagtgcc 250  
 ccagtagggg tgggatgagc gaatattccc aaagctaaag tcccacaccc 300  
 tgtagattac aagagtggat ttggcaggag tgtgccccaa aatacagtgg 350  
 aaaggtgcct gaagatattt aaaccacgtc ttggaaattt agtgggtctt 400  
 ggctttggga taggtgaagt gaggacagac actggagagg agggaaaggg 450  
 gacgttttca ataggaggca aaactcgagg gtgggatcca ctgaggagta 500  
 cataggctgc tggatctggt ggagccagca ctgggcccac ggggtggtaac 550  
 tggctgctgt ggaggggggt acgtgagggg ggggtctggg gcttatcctc 600  
 aggtcctgtg ggtggggcag cgagtcgggg cctgagcgtc aagagcatgc 650  
 cctagtgagc gggctcctct gggggagccc agcgcgctcc gggcgctgc 700  
 cggtttgggg gtgtctcctc ccggggcgct atggcggcgc tggccagtag 750  
 cctgatccgg cagaagcggg aggtccgcga gcccgggggc agccggccgg 800  
 tgtcggcgca gcggcgctg tgtccccgg gcaccaagtc cttttgccag 850  
 aagcagctcc tcatcctgct gtccaagggt cgactgtgcg gggggcggcc 900  
 cgcgcggccg gaccgcggcc cggagcctca gctcaaaggc atcgtcacca 950  
 aactgttctg ccgccagggt ttctacctcc aggcgaatcc cgacggaagc 1000  
 atccagggca ccccagagga taccagctcc ttcacccact tcaacctgat 1050  
 ccctgtgggc ctccgtgtgg tcaccatcca gagcgccaag ctgggtcact 1100  
 acatggccat gaatgctgag ggactgctct acagttcgcc gcatttcaca 1150  
 gctgagtgtc gctttaagga gtgtgtcttt gagaattact acgtcctgta 1200  
 cgcctctgct ctctaccgcc agcgtcgttc tggccggggc tggtagctcg 1250

gcctggacaa ggagggccag gtcatgaagg gaaaccgagt taagaagacc 1300  
aaggcagctg ccacttttct gcccaagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctcccccttc agtccccctg 1400  
ccccctgaaa tgtagtccct ggactggagg ttccctgcac tcccagtgag 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
Met Ala Ala Leu Ala Ser Ser Leu Ile Arg Gln Lys Arg Glu Val  
1 5 10 15  
Arg Glu Pro Gly Gly Ser Arg Pro Val Ser Ala Gln Arg Arg Val  
20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

[illegible]

atggccgcg	ccatcgctag	cggtttgatc	cgccagaagc	ggcaggcgcg	50
ggagcagcac	tgggaccggc	cgtctgccag	caggaggcgg	agcagcccca	100
gcaagaaccg	cgggctctgc	aacggcaacc	tgttgatat	cttctccaaa	150
gtgcgcattct	tgggootcaa	gaagcgcagg	ttgcggcgcc	aagatcccca	200
gctcaaggggt	atagtgacca	ggttatattg	caggcaaggc	tactacttgc	250
aaatgcaccc	cgatggagct	ctcgatggaa	ccaaggatga	cagcactaat	300
tctacactct	tcaacctcat	accagtggga	ctacgtgttg	ttgccatcca	350
gggagtga	acagggttgt	atatagccat	gaatggagaa	ggttacctct	400
acccatcaga	actttttacc	cctgaatgca	agtttaaaga	atctgttttt	450
gaaaattatt	atgtaattcta	ctcatccatg	ttgtacagac	aacaggaatc	500
tggtagagcc	tggttttttg	gattaaataa	ggaagggcaa	gctatgaaag	550
ggaacagagt	aaagaaaacc	aaaccagcag	ctcattttct	acccaagcca	600
ttggaagtgt	ccatgtaccg	agaaccatct	ttgcatgatg	ttggggaaac	650
ggtcccgaag	cctgggggtga	cgccaagtaa	aagcacaagt	gcgtctgcaa	700
taatgaatgg	aggcaaacca	gtcaacaaga	gtaagacaac	atag	744

<211> 247

<213> Hom

Met	Ala	Ala	Ala	Ile	Ala	Ser	Gly	Leu	Ile	Arg	Gln	Lys	Arg	Gln
1				5					10					15
Ala	Arg	Glu	Gln	His	Trp	Asp	Arg	Pro	Ser	Ala	Ser	Arg	Arg	Arg
				20					25					30
Ser	Ser	Pro	Ser	Lys	Asn	Arg	Gly	Leu	Cys	Asn	Gly	Asn	Leu	Val
				35					40					45
Asp	Ile	Phe	Ser	Lys	Val	Arg	Ile	Phe	Gly	Leu	Lys	Lys	Arg	Arg
				50					55					60
Leu	Arg	Arg	Gln	Asp	Pro	Gln	Leu	Lys	Gly	Ile	Val	Thr	Arg	Leu
				65					70					75
Tyr	Cys	Arg	Gln	Gly	Tyr	Tyr	Leu	Gln	Met	His	Pro	Asp	Gly	Ala
				80					85					90
Leu	Asp	Gly	Thr	Lys	Asp	Asp	Ser	Thr	Asn	Ser	Thr	Leu	Phe	Asn
				95					100					105
Leu	Ile	Pro	Val	Gly	Leu	Arg	Val	Val	Ala	Ile	Gln	Gly	Val	Lys
				110					115					120

Thr	Gly	Leu	Tyr	Ile	Ala	Met	Asn	Gly	Glu	Gly	Tyr	Leu	Tyr	Pro
				125					130					135
Ser	Glu	Leu	Phe	Thr	Pro	Glu	Cys	Lys	Phe	Lys	Glu	Ser	Val	Phe
				140					145					150
Glu	Asn	Tyr	Tyr	Val	Ile	Tyr	Ser	Ser	Met	Leu	Tyr	Arg	Gln	Gln
				155					160					165
Glu	Ser	Gly	Arg	Ala	Trp	Phe	Leu	Gly	Leu	Asn	Lys	Glu	Gly	Gln
				170					175					180
Ala	Met	Lys	Gly	Asn	Arg	Val	Lys	Lys	Thr	Lys	Pro	Ala	Ala	His
				185					190					195
Phe	Leu	Pro	Lys	Pro	Leu	Glu	Val	Ala	Met	Tyr	Arg	Glu	Pro	Ser
				200					205					210
Leu	His	Asp	Val	Gly	Glu	Thr	Val	Pro	Lys	Pro	Gly	Val	Thr	Pro
				215					220					225
Ser	Lys	Ser	Thr	Ser	Ala	Ser	Ala	Ile	Met	Asn	Gly	Gly	Lys	Pro
				230					235					240
Val	Asn	Lys	Ser	Lys	Thr	Thr								
				245										

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

<400> 500  
 ggggagagga attgaccatg taaaaggaga cttttttttt tgggtggtggt 50  
 ggctgttgagg tgccttgcaa aatgaagga tgcaggacgc agctttctcc 100  
 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtgtt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggcct ttttagtaaa gtaaagaact 450  
 ggtgtggtgg tgttttcctt tctttttgaa tttcccacaa gaggagagga 500  
 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550  
 gcagattgag gcattgattg ggggagagaa accagcagag cacagttgga 600  
 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650  
 ttcatacaac tccttttttt taaattttta ttccttttgg tatcaagatc 700  
 atgcgttttc tcttgttctt aaccacctgg atttccatct ggatgttgct 750

gtgatcagtc tgaaatacaa ctgtttgaat tccagaagga ccaacaccag 800  
ataaattatg aatgttgaac aagatgacct tacatccaca gcagataatg 850  
ataggtccta ggtttaacag ggccctatth gacccctgc ttgtggtgct 900  
gctggctctt caacttcttg tgggtggctgg tctggtgcgg gctcagacct 950  
gcccttctgt gtgctcctgc agcaaccagt tcagcaaggt gatttgtgtt 1000  
cggaaaaacc tgcgtgaggt tccggatggc atctccacca acacacggct 1050  
gctgaacctc catgagaacc aaatccagat catcaaagtg aacagcttca 1100  
agcattgag gcacttgga atcctacagt tgagtaggaa ccatatcaga 1150  
accattgaaa ttggggcttt caatggtctg gcgaacctca acactctgga 1200  
actctttgac aatcgtctta ctaccatccc gaatggagct tttgtatact 1250  
tgtctaaact gaaggagctc tggttgcgaa acaaccccat tgaaagcatc 1300  
ccttcttatg cttttaacag aattccttct ttgcgcgac tagacttagg 1350  
ggaattgaaa agactttcat acatctcaga aggtgccttt gaaggctctgt 1400  
ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450  
aacctcacac cgctcataaa actagatgag ctggatcttt ctgggaatca 1500  
tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550  
aactgtggat gatacagtcc cagattcaag tgattgaacg gaatgccttt 1600  
gacaaccttc agtcactagt ggagatcaac ctggcacaca ataactaac 1650  
attactgcct catgacctct tcaactccct gcacatcta gagcgatac 1700  
atttacatca caacccttg aactgtaact gtgacatact gtggctcagc 1750  
tgggtggataa aagacatggc cccctcgaac acagottgtt gtgcccggtg 1800  
taacactcct cccaatctaa aggggaggta cattggagag ctcgaccaga 1850  
attacttcac atgctatgct ccggtgattg tggagcccc tgcagacctc 1900  
aatgtcactg aaggcatggc agctgagctg aaatgtcggg cctccacatc 1950  
cctgacatct gtatcttggg ttactccaaa tggaacagtc atgacacatg 2000  
gggcgtacaa agtgcgata gctgtgctca gtgatggtac gttaaatttc 2050  
acaaatgtaa ctgtgcaaga tacaggcatg tacacatgta tggtagta 2100  
ttccgttggg aatactactg cttcagccac cctgaatgtt actgcagcaa 2150  
ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatggaa 2200  
ccgtctcagg atgaggcaag gaccacagat aacaatgtgg gtccactcc 2250  
agtggctgac tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
gcacaaggtc gacagagaaa accttcacca tcccagtgac tgatataaac 2350



Tyr	Ala	Phe	Asn	Arg 170	Ile	Pro	Ser	Leu	Arg 175	Arg	Leu	Asp	Leu	Gly 180
Glu	Leu	Lys	Arg	Leu 185	Ser	Tyr	Ile	Ser	Glu 190	Gly	Ala	Phe	Glu	Gly 195
Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
Gly	Leu	Met	His	Leu 245	Gln	Lys	Leu	Trp	Met 250	Ile	Gln	Ser	Gln	Ile 255
Gln	Val	Ile	Glu	Arg 260	Asn	Ala	Phe	Asp	Asn 265	Leu	Gln	Ser	Leu	Val 270
Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295	Ile	His	Leu	His	His 300
Asn	Pro	Trp	Asn	Cys 305	Asn	Cys	Asp	Ile	Leu 310	Trp	Leu	Ser	Trp	Trp 315
Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325	Cys	Cys	Ala	Arg	Cys 330
Asn	Thr	Pro	Pro	Asn 335	Leu	Lys	Gly	Arg	Tyr 340	Ile	Gly	Glu	Leu	Asp 345
Gln	Asn	Tyr	Phe	Thr 350	Cys	Tyr	Ala	Pro	Val 355	Ile	Val	Glu	Pro	Pro 360
Ala	Asp	Leu	Asn	Val 365	Thr	Glu	Gly	Met	Ala 370	Ala	Glu	Leu	Lys	Cys 375
Arg	Ala	Ser	Thr	Ser 380	Leu	Thr	Ser	Val	Ser 385	Trp	Ile	Thr	Pro	Asn 390
Gly	Thr	Val	Met	Thr 395	His	Gly	Ala	Tyr	Lys 400	Val	Arg	Ile	Ala	Val 405
Leu	Ser	Asp	Gly	Thr 410	Leu	Asn	Phe	Thr	Asn 415	Val	Thr	Val	Gln	Asp 420
Thr	Gly	Met	Tyr	Thr 425	Cys	Met	Val	Ser	Asn 430	Ser	Val	Gly	Asn	Thr 435
Thr	Ala	Ser	Ala	Thr 440	Leu	Asn	Val	Thr	Ala 445	Ala	Thr	Thr	Thr	Pro 450
Phe	Ser	Tyr	Phe	Ser 455	Thr	Val	Thr	Val	Glu 460	Thr	Met	Glu	Pro	Ser 465
Gln	Asp	Glu	Ala	Arg 470	Thr	Thr	Asp	Asn	Asn 475	Val	Gly	Pro	Thr	Pro 480



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro
				485					490					495
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr
				500					505					510
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr
				515					520					525
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala
				530					535					540
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His
				545					550					555
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn
				560					565					570
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu
				575					580					585
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser
				590					595					600
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn
				605					610					615
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn
				620					625					630
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile					
				635					640					

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgcgggag cccatctgcc ccaggggca cggggcgcg ggccgggtcc 50  
 cgcccggcac atggctgcag ccacctcgcg cgcacccoga ggcgcccgcg 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctcct 200  
 ccttctcctc ttgtagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttcctgg caggagatgc ctccttgag attgaacctc tgaagcccag 500  
 tgatgagggc cggtagacct gtaagggtta gaattcaggg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtottagtga gaccatccaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcattcctct ggcacagagc ccatttgtta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaattctag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
 gtgacaggca tagtggctgg agccctgctg attttcctct tgggtgtggct 950  
 gctaattccga aggaaagaca aagaaagata tgaggaagaa gagagacctt 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgctt tgtgaaacct 1050  
 agctcctctt cctcaggctc tcggagctca cgctctggtt ctctctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaattctgac 1250  
 caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
 aaacggtctg aattacaatg gacttgactc ccacgcttct ctaggagtca 1350  
 gggctcttgg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaagg 1600  
 tggggaaagg tgaggtgaat atacctaaaa cttttaatgt gggatatttt 1650  
 gtatcagtgc tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatattgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccaactctata 1950  
 ctaattctac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000  
 aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050  
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100  
 cctcaaatca gatgcctota aggactttcc tgctagatat ttctggaagg 2150  
 agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200

agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250  
tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
tagaaagggg gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350  
cgggcatggt gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400  
gtgagccgag attatgccat tgcactccag cctgggtgac agagcgggac 2450  
tccgtctc 2458

<210> 503  
<211> 373  
<212> PRT  
<213> Homo Sapien

<400> 503  
Met Ser Leu Leu Leu Leu Leu Leu Val Ser Tyr Tyr Val Gly  
1 5 10 15  
Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys  
20 25 30  
Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
35 40 45  
Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln  
50 55 60  
Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
65 70 75  
Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
80 85 90  
Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
95 100 105  
Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
110 115 120  
Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
125 130 135  
Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
140 145 150  
Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
155 160 165  
Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
170 175 180  
Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
185 190 195  
Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
200 205 210  
Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
215 220 225

Gln Tyr Val Gln Ser Ile Gly Met Val	Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly Ala Leu Leu Ile Phe	Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys Asp Lys Glu Arg Tyr	Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg Glu Asp Ala Glu Ala	Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser Ser Ser Ser Gly Ser	Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr Arg Ser Thr Ala Asn	Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser Thr Asp Ala Ala Pro	Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser Leu Val Gly Pro Glu	Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His His Ala Asn Leu Thr	Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro Ser Gln Ser Arg Ala	Phe Gln Thr Val	365	370	

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
 cgcgaggcgc ggggagcctg ggaccaggag cgagagccgc ctacctgcag 50  
 ccgccgccca cggcacggca gccaccatgg cgctcctgct gtgcttcgtg 100  
 ctctgtgctg gagtagtgga tttcgccaga agtttgagta tcaactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
 aatttacgct tagtcccga gaccaggac cgctggacat cgagtggctg 250  
 atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
 attttacgag taatgatctc aaatctggtg atgcatcaat aaatgtaacg 400  
 aatttacaac tgtcagatat tggcacatat cagtgcacaa tgaaaaaagc 450  
 tcctggtgtt gcaaataaga agattcatct ggtagttctt gttaagcctt 500  
 cagggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgacttt 550  
 aagataaaat gtgaacaaaa agaaggttca cttccattac agtatgagtg 600  
 gcaaaaattg tctgactcac agaaaatgcc cacttcatgg ttagcagaaa 650  
 tgacttcac tggtatatct gtaaaaaatg cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgata agtgccctgtt 750  
gcgtctaaac gttgtccctc cttcaaataa agctggacta attgcaggag 800  
ccattatagg aacttttgctt gctctagcgc tcattggtct tatcatcttt 850  
tgctgtcgta aaaagcgcag agaagaaaaa tatgaaaagg aagttcatca 900  
cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcc 950  
gaagctacat cggcagtaat cattcatccc tgggggtccat gtctccttcc 1000  
aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050  
ctttgaacgc actcctcaga gtccgactct cccacctgct aagttcaagt 1100  
acccttataa gactgatgga attacagttg tataaatatg gactactgaa 1150  
gaatctgaag tattgtatta tttgacttta ttttaggcct ctagtaaaga 1200  
cttaaatgtt ttttaaaaaa agcacaaggc acagagatta gagcagctgt 1250  
aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
atgtcaaaat tagtacgagc caaattcttt gttaaaaaac cctatgtata 1350  
gtgacactga tagttaaag atgttttatt atattttcaa taactaccac 1400  
taacaaatth ttaacttttc atatgcatat tctgatatgt ggtcttttag 1450  
gaaaagtatg gttaatagtt gattttttcaa aggaaattht aaaattctta 1500  
cgttctgtth aatgtttttg ctatttagtt aaatacattg aagggaata 1550  
cccgthctth tcccctthta tgcacacaac agaaacacgc gttgtcatgc 1600  
ctcaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
acaacgacat aaaatagatt tccttgtata taaataactt acatacgctc 1700  
cataaagtaa attctcaaag gtgctagaac aaatcgtcca cttctacagt 1750  
gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800  
atattaaaaa cttaggcact tgactaactt taataaaatt tctcaaacta 1850  
tatcaatatc taaagtgcatt atatttttta agaaagatta ttctcaataa 1900  
cttctataaa aataagtttg atggtttggc ccatctaact tcactactat 1950  
tagtaagaac ttttaactth taatgtgtag taaggthtat tctaccttht 2000  
tctcaacatg acaccaacac aatcaaaaac gaagtttagt aggtgctaac 2050  
atgtgaggat taatccagtg attccgggtca caatgcattc caggaggagg 2100  
taccatgtc actggaattg ggcgatatgg tttattthtt cttccctgat 2150  
ttggataacc aaatggaaca ggaggaggat agtgattctg atggccattc 2200  
cctcgatata ttcctggctt ttttctgggc aaagggtgcc acattggaag 2250  
aggtggaaat ataagttctg aaatctgtag ggaagagaac acattaagtt 2300

aattcaaagg aaaaaatcat catctatgtt ccagatttct cattaagac 2350  
aaagttaccc acaacactga gatcacatct aagtgacact cctattgtca 2400  
gggtctaaata cattaataaac ctcatgtgta ataggcgtat aatgtataac 2450  
aggtgaccaa tgttttctga atgcataaag aaatgaataa actcaaacac 2500  
agtacttcct aaacaacttc aaccaaaaaa gaccaaaca tggaacgaat 2550  
ggaagcttgt aaggacatgc ttgttttagt ccagtgggtt ccacagctgg 2600  
ctaagccagg agtcacttgg aggcttttaa atacaaaaca ttggagctgg 2650  
aggccattat ccttagcaaa ctaatgcaga aacagaaaat caactaccgc 2700  
atgtttctcac ttataagtgg gaggtaatga taagaactta tgaacacaaa 2750  
gaaggaaaca atagacattg gagtctatatt gagaggggag ggtgggagaa 2800  
ggaaaaggag cagaaaagat aactattgag tactgccttc acacctgggt 2850  
gatgaaataa tatgtacaac aaatccctgt gacacatgtt tacctatgga 2900  
acaaaccttc atgtgtatcc ctaaacctaa aataaaagt aaataaaagt 2950  
aaataaaagt aaataaaagt aaataaaagt aaataaaagt aaataaaagt 3000  
aaataaaagt aaataaaagt aaataaaagt aaataaaagt aaataaaagt 3050  
aaataaaagt 3060

<210> 505  
<211> 352  
<212> PRT  
<213> Homo Sapien

<400> 505  
Met Ala Leu Leu Leu Cys Phe Val Leu Leu Cys Gly Val Val Asp  
1 5 10 15  
Phe Ala Arg Ser Leu Ser Ile Thr Thr Pro Glu Glu Met Ile Glu  
20 25 30  
Lys Ala Lys Gly Glu Thr Ala Tyr Leu Pro Cys Lys Phe Thr Leu  
35 40 45  
Ser Pro Glu Asp Gln Gly Pro Leu Asp Ile Glu Trp Leu Ile Ser  
50 55 60  
Pro Ala Asp Asn Gln Lys Val Asp Gln Val Ile Ile Leu Tyr Ser  
65 70 75  
Gly Asp Lys Ile Tyr Asp Asp Tyr Tyr Pro Asp Leu Lys Gly Arg  
80 85 90  
Val His Phe Thr Ser Asn Asp Leu Lys Ser Gly Asp Ala Ser Ile  
95 100 105  
Asn Val Thr Asn Leu Gln Leu Ser Asp Ile Gly Thr Tyr Gln Cys  
110 115 120  
Lys Val Lys Lys Ala Pro Gly Val Ala Asn Lys Lys Ile His Leu

	125		130		135
Val Val Leu Val	Lys Pro Ser Gly Ala	Arg Cys Tyr Val Asp Gly			
	140	145			150
Ser Glu Glu Ile	Gly Ser Asp Phe Lys	Ile Lys Cys Glu Pro Lys			
	155	160			165
Glu Gly Ser Leu	Pro Leu Gln Tyr Glu	Trp Gln Lys Leu Ser Asp			
	170	175			180
Ser Gln Lys Met	Pro Thr Ser Trp Leu	Ala Glu Met Thr Ser Ser			
	185	190			195
Val Ile Ser Val	Lys Asn Ala Ser Ser	Glu Tyr Ser Gly Thr Tyr			
	200	205			210
Ser Cys Thr Val	Arg Asn Arg Val Gly	Ser Asp Gln Cys Leu Leu			
	215	220			225
Arg Leu Asn Val	Val Pro Pro Ser Asn	Lys Ala Gly Leu Ile Ala			
	230	235			240
Gly Ala Ile Ile	Gly Thr Leu Leu Ala	Leu Ala Leu Ile Gly Leu			
	245	250			255
Ile Ile Phe Cys	Cys Arg Lys Lys Arg	Arg Glu Glu Lys Tyr Glu			
	260	265			270
Lys Glu Val His	His Asp Ile Arg Glu	Asp Val Pro Pro Pro Lys			
	275	280			285
Ser Arg Thr Ser	Thr Ala Arg Ser Tyr	Ile Gly Ser Asn His Ser			
	290	295			300
Ser Leu Gly Ser	Met Ser Pro Ser Asn	Met Glu Gly Tyr Ser Lys			
	305	310			315
Thr Gln Tyr Asn	Gln Val Pro Ser Glu	Asp Phe Glu Arg Thr Pro			
	320	325			330
Gln Ser Pro Thr	Leu Pro Pro Ala Lys	Phe Lys Tyr Pro Tyr Lys			
	335	340			345
Thr Asp Gly Ile	Thr Val Val				
	350				

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
 tgaaatgact tccacggctg ggacgggaac cttccaccca cagctatgcc 50  
 tctgattggt gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100  
 ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200  
 gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250

agatgaattt toaacagagg ctgcaaagcc tgtggacttt agccagaccc 300  
 ttctgcoctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgcoctg ggtttttaccc tgcttctctg gagccaggta tcagggggccc 400  
 agggccaaga attccacttt gggccctgcc aagtgaaggg ggttgttccc 450  
 cagaaactgt gggaagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtgtcc ggctgctgca gcaggagggt ctgcagaacg 550  
 tctcggatgc tgagagctgt taccttgtcc acaccctgct ggagttctac 600  
 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650  
 tctgaagtca ttctctactc tggccaacaa ctttgttctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgc 750  
 cacaggcggg ttctgctatt ccggagagca ttcaaacagt tggacgtaga 800  
 agcagctctg accaaagccc ttggggaagt ggacattctt ctgacctgga 850  
 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccctcccc 900  
 tggcactggg ttgttccttg tgtcatttca aacagtctcc ctctctatgc 950  
 tgttctactg acacttcacg cccttgcca tgggtcccat tcttgccca 1000  
 ggattattgt caaagaagtc attctttaag cagcgccagt gacagtcagg 1050  
 gaaggtgcct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta tttcaactga agttctatatt 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtgggtgt ttttttgcc tgtctttgga 1300  
 ttgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350  
 atgaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggt gcatctgttt gaaaagtaaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc ccaccacac 1500  
 tcgccagctc accccatcat ccctttccct tgggtgcctc cttttttttt 1550  
 tatcctagtc attcttccct aatcttcac ttgagtgtca agctgacctt 1600  
 gctgatgggt acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
 ccctgctaataaaaagacaac ataactccaa aaaaaaaaaa aaaaaaaaaa 1700  
 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

Met Asn Phe Gln Gln Arg Leu Gln Ser Leu Trp Thr Leu Ala Arg  
1 5 10 15  
Pro Phe Cys Pro Pro Leu Leu Ala Thr Ala Ser Gln Met Gln Met  
20 25 30  
Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Leu Trp Ser Gln  
35 40 45  
Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln  
50 55 60  
Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
65 70 75  
Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg  
80 85 90  
Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser  
95 100 105  
Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val  
110 115 120  
Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys  
125 130 135  
Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln  
140 145 150  
Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser  
155 160 165  
Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu  
170 175 180  
Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile  
185 190 195  
Leu Leu Thr Trp Met Gln Lys Phe Tyr Lys Leu  
200 205

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

aaggagcagc ccgcaagcac caagtgagag gcatgaagtt acagtgtgtt 50  
tccctttggc tcctgggtac aatactgata ttgtgctcag tagacaacca 100  
cggctctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
gtttccaaga aatcaaaaaga gccatccaag ctaaggacac cttcccaaatt 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgctgc gtgaccaaga acctcctggc gttctacgtg gacagggtgt 300

tcaaggatca tcaggagcca aacccccaaaa tcttgagaaa aatcagcagc 350  
 attgccaaact ctttcctcta catgcagaaa actctgcggc aatgtcagga 400  
 acagaggcag tgtcactgca ggcaggaagc caccaatgcc accagagtca 450  
 tccatgacaa ctatgatcag ctggaggtcc acgctgctgc cattaaatcc 500  
 ctgggagagc tcgacgtctt tctagcctgg attaataaga atcatgaagt 550  
 aatgtttctca gcttgatgac aaggaacctg tatagtgac cagggatgaa 600  
 caccacctgt gcggtttact gtgggagaca gccaccttg aaggggaagg 650  
 agatggggaa ggccccctgc agctgaaagt cccactggct ggccctcaggc 700  
 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750  
 taaactctat ctgctgaaag ggctgcagg ccatcctggg agtaaagggc 800  
 tgccttccca tctaatttat tgtaaagtca tatagtccat gtctgtgatg 850  
 tgagccaagt gatatcctgt agtacacatt gtactgagtg gtttttctga 900  
 ataaattcca tattttacct atga 924

<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
 Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu  
 1 5 10 15  
 Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile  
 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

090929 1200

155 160 165  
Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

<210> 510  
<211> 996  
<212> DNA  
<213> Homo Sapien

<400> 510  
cccgtgccaa gagtgacgta agtaccgcct atagagtcta taggcccact 50  
tggcttcgtt agaacgcggc tacaattaat acataacctt atgtatcata 100  
cacatacgat ttaggtgaca ctatagaata acatccactt tgcctttctc 150  
tccacaggtg tccactccca ggtccaaactg cacctcggtt ctatcgataa 200  
tctcagcacc agccactcag agcagggcac gatgttgggg gcccgccctca 250  
ggctctgggt ctgtgccttg tgcagcgtct gcagcatgag cgtcctcaga 300  
gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350  
ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400  
agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccctg 450  
atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500  
cagaagatac ctctgcatgg atttcagagg caacattttt ggatcacact 550  
atttcgaccc ggagaactgc aggttccaac accagacgct ggaaaacggg 600  
tacgacgtct accactctcc tcagtatcac ttcctgggtca gtctggggccg 650  
ggcgaagaga gccttctctgc caggcatgaa cccacccccg tactcccagt 700  
tcctgtcccg gaggaacgag atccccctaa ttcacttcaa ccccccata 750  
ccacggcggc acacccggag cgccgaggac gactcggagc gggaccccct 800  
gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850  
cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtgacca 900  
ttaggggtgg tcaggggagg tcgagtgaac acgcacgctg ggggaacggg 950  
cccgaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 511  
Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
1 5 10 15  
Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30



ggggagccaa gagaatttcc cctgcaagag agaccaggag tttcacaaaa 350  
 acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtga tcccaggagg gcatcttttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaagac actcacaatg gacatattga cattgggtca 550  
 cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
 acggccccca tccagtcac accccgtcac gggcctcaga gaggcagcgc 650  
 tcttccgacg gccccatcc agtcacacc ccgtcacggg cctcagagag 700  
 cagcgcctct tccgacggcc cccatccagt catcaccccg tcatgggtccc 750  
 cgggatctga tgtcactctc ctgctgaag ccctgggtgac tgtcacaaac 800  
 atcgaggtta ttaattgcag catcacagaa atagaaacaa caacttccag 850  
 catccctggg gcctcagaca tagatctcat cccacggaa ggggtgaagg 900  
 cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
 ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000  
 caccacagag tcagctgcac ctcatgccac ggttgggacc ccactcccca 1050  
 ctaacagcgc cacagaaaga gaagtgcag caccgggggc cagaccctc 1100  
 agtggagctc tggtcacagt tagcaggaat cccctggaag aaacctcagc 1150  
 cctctctgtt gagacaccaa gttacgtcaa agtctcagga gcagctccgg 1200  
 tctccataga ggctgggtca gcagtgggca aaacaacttc ctttgctggg 1250  
 agctctgctt cctcctacag cccctcgga ggcgcctca agaacttcac 1300  
 cccttcagag acaccgacca tggacatgc aaccaagggg cccttcccca 1350  
 ccagcaggga ccctcttccct tctgtccctc cgactacaac caacagcagc 1400  
 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450  
 gatgaagccc caacagccac gccacgact gcccgacga ggccgaccac 1500  
 agacgtgagt gcagggtgaaa atggaggttt cctcctcctg cggctgagt 1550  
 tggcttcccc ggaagacctc actgaccca gagtggcaga aaggctgatg 1600  
 cagcagctcc accgggaact ccacgcccac gcgcctcact tccaggtctc 1650  
 ctactgcgt gtcaggagag gctaacggac atcagctgca gccaggcatg 1700  
 tcccgatatgc caaaagaggg tgctgccct agcctgggcc cccaccgaca 1750  
 gactgcagct gcgttactgt gctgagaggt acccagaagg ttcccatgaa 1800  
 gggcagcatg tccaagcccc taaccccaga tgtggcaaca ggaccctgc 1850  
 tcacatccac oggagtgtat gtatggggag gggcttcacc tgttccaga 1900



Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp	
				260					265					270	
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser	
				275					280					285	
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile	
				290					295					300	
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr	
				305					310					315	
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro	
				320					325					330	
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr	
				335					340					345	
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu	
				350					355					360	
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val	
				365					370					375	
Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly	
				380					385					390	
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro	
				395					400					405	
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr	
				410					415					420	
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro	
				425					430					435	
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr	
				440					445					450	
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met	
				455					460					465	
Lys	Pro	Gln	Gln	Pro	Arg	Pro	Arg	Leu	Pro	Gly	Arg	Gly	Arg	Pro	
				470					475					480	

Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

<400> 514  
 gcggagcatc cgctgcggtc ctgcgcgaga ccccgcgcg gattcgccgg 50  
 tccttcccg cggcgcgaca gagctgtcct cgcacctgga tggcagcagg 100  
 ggcgcccggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gacaaaaact aaactgaaat ttaaaatggt cttcggggga gaaggagct 250

tgacttacac tttggttaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gcctcaaaaa gagtctagaa gatgttgtca ttgacatcca 350  
 gtcattctctt tctaagggaa tcagaggcaa tgagcccgta tataacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctggt caacaaaaaa catatcaggg 450  
 gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500  
 acccaactgc tacctatttt tctgtcccaa cgaggaagcc tgtccattga 550  
 aaccagcaaa aggacttatg agttacagga taattacaga ttttccatct 600  
 ttgaccagaa atttgccaag ccaagagtta cccaggaag attctctctt 650  
 acatggccaa ttttcacaag cagtcactcc cctagcccat catcacacag 700  
 attattcaaa gccaccgat atctcatgga gagacacact ttctcagaag 750  
 tttggatcct cagatcacct ggagaaacta ttttaagatgg atgaagcaag 800  
 tgcccagctc cttgcttata aggaaaaagg ccattctcag agttcacaat 850  
 tttcctctga tcaagaaata gctcatctgc tgccctgaaaa tgtgagtgcg 900  
 ctcccagcta cgggtggcagt tgcttctcca cataccacct cggctactcc 950  
 aaagcccgcc accctttctac ccaccaatgc ttcagtgaca ccttctggga 1000  
 cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
 tctcagcctc ccacgacct cattttctaca gtttttacac gggctgcggc 1100  
 tacactccaa gcaatggcta caacagcagt tctgactacc acctttcagg 1150  
 cacctacgga ctcgaaaggc agcttagaaa ccataccggt tacagaaatc 1200  
 tccaacttaa ctttgaacac agggaatgtg tataacccta ctgcactttc 1250  
 tatgtcaaat gtggagtctt ccactatgaa taaaactgct tcctgggaag 1300  
 gtagggaggc cagtccaggc agttcctccc agggcagtggt tccagaaaat 1350  
 cagtacggcc ttocatttga aaaatggctt cttatcgggt ccctgctctt 1400  
 tgggtgtcctg ttccctggta taggcctcgt cctcctgggt agaatccttt 1450  
 cggaatcact ccgcaggaaa cgttactcaa gactggatta tttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550  
 tagtaaccag aagcccaaatt gcaatgagtt tctgctgact tgctagtctt 1600  
 agcaggagggt tgtattttga agacaggaaa atgccccctt ctgctttcct 1650  
 tttttttttt ggagacagag tcttgctctg ttgccaggc tggagtgcag 1700  
 tagcacgata tcggtctctc ccgcaacctc cgtctcctgg gttcaagcga 1750  
 ttctcctgcc tcagcctcct aagtatctgg gattacaggc atgtgccacc 1800  
 acacctgggt gatTTTTGTA ttttttagtag agacggggtt tcacatggt 1850



<211> 431

<213> Homo Sapien

Met 1	Phe	Phe	Gly	Gly 5	Glu	Gly	Ser	Leu	Thr 10	Tyr	Thr	Leu	Val	Ile 15
Ile	Cys	Phe	Leu	Thr 20	Leu	Arg	Leu	Ser	Ala 25	Ser	Gln	Asn	Cys	Leu 30
Lys	Lys	Ser	Leu	Glu 35	Asp	Val	Val	Ile	Asp 40	Ile	Gln	Ser	Ser	Leu 45
Ser	Lys	Gly	Ile	Arg 50	Gly	Asn	Glu	Pro	Val 55	Tyr	Thr	Ser	Thr	Gln 60
Glu	Asp	Cys	Ile	Asn 65	Ser	Cys	Cys	Ser	Thr 70	Lys	Asn	Ile	Ser	Gly 75
Asp	Lys	Ala	Cys	Asn 80	Leu	Met	Ile	Phe	Asp 85	Thr	Arg	Lys	Thr	Ala 90
Arg	Gln	Pro	Asn	Cys 95	Tyr	Leu	Phe	Phe	Cys 100	Pro	Asn	Glu	Glu	Ala 105
Cys	Pro	Leu	Lys	Pro 110	Ala	Lys	Gly	Leu	Met 115	Ser	Tyr	Arg	Ile	Ile 120
Thr	Asp	Phe	Pro	Ser 125	Leu	Thr	Arg	Asn	Leu 130	Pro	Ser	Gln	Glu	Leu 135
Pro	Gln	Glu	Asp	Ser 140	Leu	Leu	His	Gly	Gln 145	Phe	Ser	Gln	Ala	Val 150
Thr	Pro	Leu	Ala	His 155	His	His	Thr	Asp	Tyr 160	Ser	Lys	Pro	Thr	Asp 165
Ile	Ser	Trp	Arg	Asp 170	Thr	Leu	Ser	Gln	Lys 175	Phe	Gly	Ser	Ser	Asp 180
His	Leu	Glu	Lys	Leu 185	Phe	Lys	Met	Asp	Glu 190	Ala	Ser	Ala	Gln	Leu 195

Leu	Ala	Tyr	Lys	Glu	Lys	Gly	His	Ser	Gln	Ser	Ser	Gln	Phe	Ser	
				200					205					210	
Ser	Asp	Gln	Glu	Ile	Ala	His	Leu	Leu	Pro	Glu	Asn	Val	Ser	Ala	
				215					220					225	
Leu	Pro	Ala	Thr	Val	Ala	Val	Ala	Ser	Pro	His	Thr	Thr	Ser	Ala	
				230					235					240	
Thr	Pro	Lys	Pro	Ala	Thr	Leu	Leu	Pro	Thr	Asn	Ala	Ser	Val	Thr	
				245					250					255	
Pro	Ser	Gly	Thr	Ser	Gln	Pro	Gln	Leu	Ala	Thr	Thr	Ala	Pro	Pro	
				260					265					270	
Val	Thr	Thr	Val	Thr	Ser	Gln	Pro	Pro	Thr	Thr	Leu	Ile	Ser	Thr	
				275					280					285	
Val	Phe	Thr	Arg	Ala	Ala	Ala	Thr	Leu	Gln	Ala	Met	Ala	Thr	Thr	
				290					295					300	
Ala	Val	Leu	Thr	Thr	Thr	Phe	Gln	Ala	Pro	Thr	Asp	Ser	Lys	Gly	
				305					310					315	
Ser	Leu	Glu	Thr	Ile	Pro	Phe	Thr	Glu	Ile	Ser	Asn	Leu	Thr	Leu	
				320					325					330	
Asn	Thr	Gly	Asn	Val	Tyr	Asn	Pro	Thr	Ala	Leu	Ser	Met	Ser	Asn	
				335					340					345	
Val	Glu	Ser	Ser	Thr	Met	Asn	Lys	Thr	Ala	Ser	Trp	Glu	Gly	Arg	
				350					355					360	
Glu	Ala	Ser	Pro	Gly	Ser	Ser	Ser	Gln	Gly	Ser	Val	Pro	Glu	Asn	
				365					370					375	
Gln	Tyr	Gly	Leu	Pro	Phe	Glu	Lys	Trp	Leu	Leu	Ile	Gly	Ser	Leu	
				380					385					390	
Leu	Phe	Gly	Val	Leu	Phe	Leu	Val	Ile	Gly	Leu	Val	Leu	Leu	Gly	
				395					400					405	
Arg	Ile	Leu	Ser	Glu	Ser	Leu	Arg	Arg	Lys	Arg	Tyr	Ser	Arg	Leu	
				410					415					420	
Asp	Tyr	Leu	Ile	Asn	Gly	Ile	Tyr	Val	Asp	Ile					
				425					430						

<210> 516  
 <211> 2749  
 <212> DNA  
 <213> Homo Sapien

<220>  
 <221> unsure  
 <222> 1869, 1887  
 <223> unknown base

<400> 516  
 ctcccacggt gtccagcgcc cagaatgcgg cttctggtcc tgctatgggg 50  
 ttgcctgctg ctcccaggtt atgaagccct ggagggccca gaggaatca 100





Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro	200	205	210
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala	215	220	225
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg	230	235	240
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu	245	250	255
Leu	Ser	Leu	Leu	Ser	Ala	Ala	Gly	Leu	Ile	Ala	Phe	Cys	Ser	His	260	265	270
Leu	Leu	Leu	Trp	Arg	Lys	Glu	Ala	Gln	Gln	Ala	Thr	Glu	Thr	Gln	275	280	285
Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys	290	295	300
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro	305	310	315
Pro	Leu	His	Thr	Ser	Glu	Glu	Glu	Leu	Gly	Phe	Ser	Lys	Phe	Val	320	325	330

Ser Ala

- <210> 518
- <211> 24
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 518

[illegible] $\langle 220 \rangle$

<223> Synthetic oligonucleotide probe

<400> 524

aatctcagca ccagccactc agagca 26

<210> 525

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 525

gttaaagagg gtgcccttcc agcga 25

<210> 526

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 526

tatcccaatg cctccccact gctc 24

<210> 527

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 527

gatgaacttg gcgaaggggc ggca 24

<210> 528

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 528

agggaggatt atccttgacc tttgaagacc 30

<210> 529

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 529

gaagcaagtg cccagctc 18

<210> 530

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 530

cgggtcacctg ctcttttg 18

<210> 531

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 531

caccgtagct gggagcgac tcac 24

<210> 532

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 532

agtgtaagtc aagctccc 18